CITY OF CARDIFF.

ANNUAL REPORT

FOR 1919

OF THE

MEDICAL OFFICER OF HEALTH.

EDWARD WALFORD, M.D., D.P.H., F.R.MET.SOC.,

MEDICAL OFFICER OF HEALTH, CITY AND PORT OF CARDIFF;
SCHOOL MEDICAL OFFICER, CARDIFF EDUCATION AUTHORITY.

Printed by Order of the Urban Sanitary Authority.

CARDIFF:

S. GLOSSOP AND SONS, LTD., NEW STREET.

1920.

CITY OF CARDIFF.

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* Cert. Royal San. Inst. ‡ Cert. Health Visitor and School Nurse Royal San. Inst.
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CITY OF CARDIFF.

CITY HALL,

CARDIFF,

June, 1920.

To the Right Honourable The Lord Mayor, Aldermen and Members of the City Council of Cardiff.

MY LORD MAYOR AND GENTLEMEN,

I have the honour to present to you my Thirty-second Annual Report on the health of the City of Cardiff, including an account of the administrative work carried out in the Department of the Medical Officer of Health for the year 1919. Although the War conditions which rendered necessary a reduction in the volume of these reports happily no longer exist, it was not until the end of the year that all the permanent officials on Military Duty returned to their civil occupations, or that the normal work of the Department was resumed.

The report for this year will thus be to some extent incomplete. During the year under consideration much difficulty has been experienced in the abatement of nuisances due to structural defects, owing to shortage of labour and material.

Deficient housing accommodation has resulted in serious over-crowding in many parts of the town, and has rendered it impossible to deal with this evil in a satisfactory manner. This overcrowding in houses has undoubtedly increased the dimensions of the epidemic of scarlet fever which has prevailed during the greater part of the year, by offering increased opportunities for infection through personal contact, practically the only method by which this disease spreads, and it is to be feared that in the event of a return of epidemic Influenza to this Country, the conditions will be more unfavourable than in 1918, unless, in the meantime, overcrowding is prevented or mitigated by the provision of further and suitable housing accommodation.

The Chief Medical Officer of the Ministry of Health has opportunely issued a Memorandum on the prevention of Influenza in which a summary is given of lines of action which should be considered in advance by a Sanitary Authority as follows.

This Memorandum has been taken into consideration by the Health Committee who will take the necessary action when the occasion arises.

During the Year 1919 there was no epidemic of Influenza. (This is obviously wrong) See Appx. Table I

MEMORANDUM ON INFLUENZA.

(SUMMARY.)

1.—The appointment by the authority of a small emergency committee (*e.g.*, three members of the Public Health Committee) to whom, with the Medical Officer of Health, should be delegated full powers to act and incur necessary expenditure.

2.—Medical practitioners and any voluntary health workers in the district to be consulted through their respective local organisations and their co-operation invited in determining the practical methods to be adopted.

3.—A scheme as regards the provision of nursing and other assistance to families stricken with influenza to be formulated, such scheme to be carried out under the direction of the Medical Officer of Health.

4.—Division of the town or district for this purpose into areas, to each of which one or more trained nurses are allotted for domiciliary nursing, the nurses to act in regard to individual patients solely under the direction of the medical practitioner in charge of the case.

5.—Women to be enlisted as "home helps" to assist with cooking, care of children and ordinary domestic work. Inquiries to be made to ascertain where such assistance is most urgently needed.

6.—Utilisation to the best advantage of Health Visitors and other members of the staff of the authority and of institutions under the control of the Council; improvisation of temporary crêches and of special kitchens in which food and invalid diet can be prepared.

7.—Allocation to influenza patients of one or more wards in the isolation hospital or in some other available and suitable emergency hospital.

8.—Issue of notices and leaflets to the public.

9.—Prevention or mitigation of overcrowding, and securing adequate ventilation in public buildings or conveyances under the control of the Council.

10.—School closure may be specially useful in rural and smaller urban districts.

The Memorandum also states that the Ministry of Health have arranged for the preparation of a considerable quantity of prophylactic vaccine, to be issued to Medical Officers of Health for distribution on demand to medical practitioners in their districts.

The abnormal distribution of the male population during the War has seriously interfered with the reliability of vital statistics based on estimates of the population, and in compiling these statistics during this period, it has been necessary to take into consideration these special conditions, which made it impossible to adhere to the methods hitherto in use.

It was, of course, impossible to include the military deaths belonging to this area, as the information was not supplied by the Military Authorities; the tabulation of deaths has been limited to the deaths of civilians, and the death-rates are based upon the civilian population, from which a large number of males, absent on Military duty, are excluded. The population used for calculating birth-rates has been estimated upon a different basis, as the births registered are not only those of the children of civilians, and it has been assumed, for this purpose, that the normal distribution of the population obtained.

The two populations used for the statistics applicable to the year 1919 were the following:—

(1) The civilian population for the calculation of death-rates, viz., 204,436.

(2) The larger population for the calculation of birth-rates, viz., 212,962.

The above estimates of population are supplied by the Registrar General, who states that they are based mainly upon the rationing returns placed at his disposal by the Ministry of Food.

Another method of estimating the population of a district, extensively adopted, is based upon the number of occupied houses. This number is multiplied by the average number of persons per house as ascertained at the last census.

This method is subject to the obvious fallacy that in the exceptional conditions prevailing during the War, no new houses have been built, whereas the population must have increased to some extent and also the average number of persons per house.

It will be seen from the attached Table that the natural increase, *i.e.*, the excess of births over deaths has been considerable, and as there has been practically no increase in the number of houses since 1914 the average number of persons per house must be higher now than in the years preceding the War. At the last census, 1911, this average was found to be 5·8 persons per house. It is assumed therefore, that since the year 1915, the average has reached 6·0 per house. Upon this assumption, the population of Cardiff in 1919 would amount approximately, to 200,000, which corresponds closely with the estimates of the Registrar General which have been adopted in the compilation of the enclosed statistical tables.

The following Tables give the number of houses in each Municipal Ward in Cardiff, according to the most recent enumeration, and the increase and decrease in each case as shown by Census returns since 1891.

TABLE I.

Decennial increase or decrease of population in each Municipal Ward in Cardiff :—

Municipal Wards.	Increase (+) or Decrease (—) of population.		Increase (+) or Decrease (—) per cent.	
	Between 1891–1901	Between 1901–1911	Between 1891–1901	Between 1901–1911
Central	— 1,062	+ 47	— 8·6	+ 0·4
South	— 399	— 201	— 3·7	— 1·9
Cathays	+ 3,999	+ 3,545	+ 27·5	+ 19·1
Adamsdown	— 2,046	— 201	— 12·6	— 1·4
Riverside	+ 2,224	+ 2,824	+ 14·9	+ 16·4
Canton	+ 6,561	+ 2,343	+ 49·8	+ 11·8
Grangetown	+ 8,850	+ 2,552	+ 75·4	+ 12·3
Roath	+ 2,405	+ 3,368	+ 19·7	+ 23·0
Park	+ 6,835	+ 2,158	+ 47·7	+ 10·2
Splott	+ 8,051	+ 1,491	+ 91·4	+ 8·8
Totals	+ 35,418	+ 17,926	+ 27·4	+ 10·9

Owing to the uncertainty attaching to the estimates of the population during the War; it has been impossible to calculate the density of the population (or persons per acre) during this period upon any satisfactory basis. For the year 1919 with an estimated population of 212,962 and an acreage of 6,373 acres, the density would be 33·4 persons per acre as compared with 28·5 the average for the five years 1910–14.

The following Table shows the density of population in the City since 1905.

Year.	Persons per acre.
1905	26·9
1906	27·2
1907	27·5
1908	27·8
1909	28·1
1910	28·4
1911	28·6
1912	28·9
1913	29·2
1914	29·5
1919	33·4

It is therefore certain that there is a considerable shortage of houses in the town, and it is estimated that about 3,000 houses are required to meet the deficiency. Until this provision has been made, it is impossible to deal with the question of overcrowding. The greater part of Cardiff is of modern construction and no large area could be designated as a slum or unhealthy area to be dealt with under Part I. of the Housing Act of 1890, although the area marked A in the map attached to this Report is a congested district, in which the housing arrangements are, more or less, unsatisfactory, and in which a comparatively low state of health prevails as indicated by the vital statistics shown on the map.

There are, however, some small courts which might be dealt with later on (when further housing accommodation has been provided) by schemes under Part II. of that Act. The following courts may be enumerated as coming within this category, and containing a population of about 180 persons.

Description.	Number of houses.
1. Garth Court	5
2. Roberts Court	7
3. Thomas Terrace	5
4. Green Garden Court	3
5. Davies Court	3
6. Max Court	2
7. Peters' Court	2
8. Canal Street	5
9. Old Sea Lock Court	9

It would be advisable to carry out such schemes gradually, and in accordance with the rate at which new houses are provided. Upon the completion of this work of clearance, consideration should be given to the larger question involved in dealing with the area marked A.

The following Table shows the work which has already been undertaken by the Sanitary Authority in connection with the closure and demolition of houses unfit for habitation.

TABLE II.

Proceedings taken relating to houses considered to be unfit for human habitation under Section 17 of the Housing, Town Planning, etc., Act, 1909 :—

STREET	Representations by the Medical Officer of Health	Closing Orders made	Houses rendered fit for habitation after Closing Orders	Demolition Orders made	Houses rendered fit for habitation after Demolition Orders	Houses Demolished
Allen's Arch	3	3	...	3*	...	...
Angelina Street	1	1	...	1	1	...
Bute Lane	4	4†	...	...	...	...
Cairns Street	6	6	...	6	6	...
Canal Street	2	2	...	2	2	...
Court Road	1	1	1	...	...	...
Crown Court	6	2	...	2	...	2
Harris Court	6	6	...	6	...	6
Little Frederick Street ...	1	1	...	1	1	...
Love Lane	2	2	...	2‡	...	...
Madras Street	1	1	1	...	...	...
Mary Ann Street (Cottages at rear of) Nora Street	2	2	...	...	...	...
	2	2	...	2	2	...
North Loudoun Place ...	1	1	...	1	...	1
Roland Street	2	2	2	...	...	...
Roland Street, Rear of ...	1	1	...	...	...	...
Saltmead Road	2	2	...	2	2	...
Stanley Street	17	17‖	...	14¶	...	13
Williams Court (Canal Street)	4	2	...	4	...	4
Womanby Street	5	5	...	5	...	5
TOTALS ...	69	63	4	51	14	31

* Local Authority decided not to enforce the Demolition Orders.

† Local Authority decided not to make Demolition Orders, provided the houses are not used for human habitation.

‡ Further action deferred pending a scheme proposed by the owner for improving the locality in which the houses are situated.

‖ In three instances the Local Authority decided not to make Demolition Orders, provided the houses are not used for human habitation.

¶ In one instance the Local Authority decided not to enforce the Demolition Order.

The Local Authority has prepared housing schemes under Part III. of the Housing of the Working Classes Act, 1890, and Section I. of the Housing and Town Planning Act, 1919, and a Town Planning Scheme is now under consideration.

Particulars of these Schemes are set forth below.

IN THE CITY OF CARDIFF.

No. of Schemes submitted.	No. of Schemes approved.	Area.	No. of Houses completed.	No. of Houses in course of construction.	No. of Rooms per house.
1	1	5,132 sq. yards	7	14	5 (including Scullery)

OUTSIDE THE CITY.

1	1	85½ acres.	None	46	6 (including Scullery)

The necessary steps are now being taken to extend the City boundaries by the inclusion of some of the adjoining districts, the main object, from a health point of view, being to spread the City over a much larger area, and to thin out or clear away the more congested and central districts, under the powers given by the Housing Acts.

The statistics given in this report in connection with the several Municipal Wards (as shown on the map) indicate that the conditions in the Central area act unfavourably on the health of the inhabitants, and that the mortality and sickness rate in this area compare unfavourably with those in the outlying and less congested districts.

OVERCROWDING.—By the term overcrowding is meant cases in which the number of persons living in a room exceeds two, and in which the air space is less than 300 cubic feet per person. Judged by this standard, Cardiff cannot be regarded as an overcrowded town, as according to the Census Report of 1911, the percentage of the population living more than two in a room is comparatively low.

The following Table gives this proportion in several towns in England and Wales.

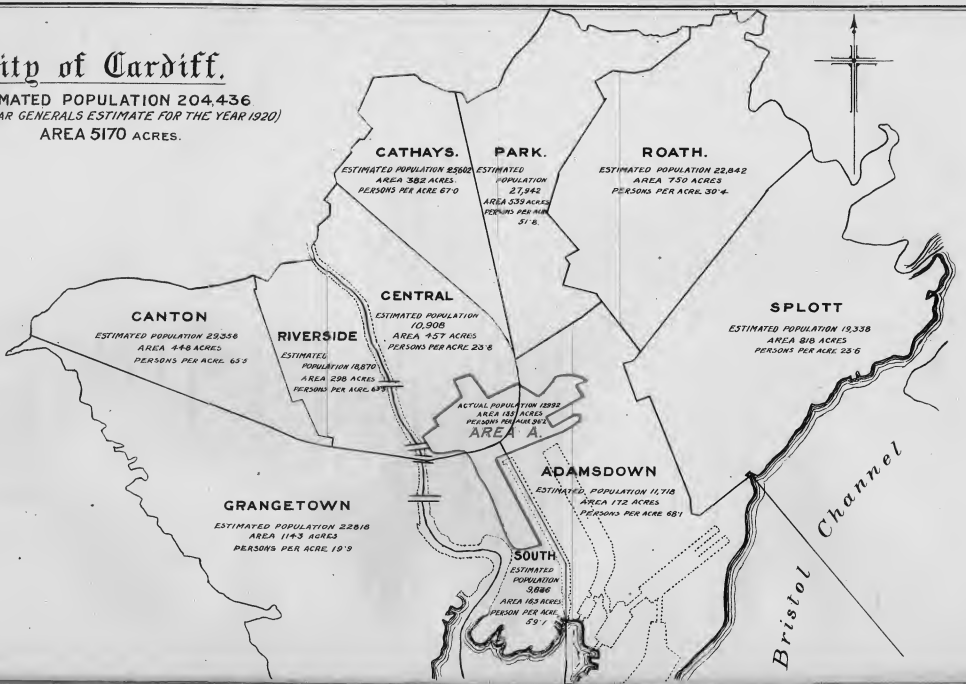
TABLE III.

Percentage of population living more than two in a room :—

	PER CENT.		PER CENT.
CARDIFF	4·8	Halifax	12·0
Merthyr Tydfil	10·5	Bradford	9·3
Swansea	10·7	Middlesborough	13·4
Aberdare	5·9	Hull	8·2
Rhondda	5·6	Worcester	4·9
Newport	5·4	Dudley	15·0
York	6·6	Birmingham	10·1
Wakefield	12·1	Hastings	5·5
Dewsbury	16·6	Eastbourne...	4·5
Barnsley	10·0	Brighton	6·7
Sheffield	8·4	Newcastle-on-Tyne	31·6
Rotherham	8·2		
Huddersfield	12·8	England and Wales	9·1
Leeds	11·0	County Boroughs	9·4

City of Cardiff.

ESTIMATED POPULATION 204,436
(REGISTRAR GENERALS ESTIMATE FOR THE YEAR 1920)
AREA 5170 ACRES.



Vital Statistics for the Year 1919.

City of Cardiff.	Birth Rate.	Death Rate	Infant Mortality	Pulmonary Tuberculosis	Diarrhœa and Enteritis	Bronchitis and Pneumonia
Whole of City	18·1	12·9	94	1·26	0·29	2·21
Central Ward	21·7	21·3	139	2·93	0·55	3·85
South Ward	23·8	25·6	121	5·08	0·51	4·56
Cathays Ward	16·5	11·2	96	0·70	0·42	1·75
Adamsdown Ward	24·4	17·8	111	1·45	0·76	1·96
Riverside Ward	15·4	14·7	109	1·11	0·31	2·38
Canton Ward	18·1	11·4	88	0·85	0·06	2·75
Grangetown Ward	25·9	14·1	98	1·05	0·35	2·71
Roath Ward	19·0	10·3	50	1·05	0·04	1·92
Park Ward	13·9	9·6	110	1·18	0·28	1·28
Splott Ward	23·3	11·9	68	0·77	0·20	1·55

Area A.

Population.	Birth Rate.	Death Rate	Infant Mortality	Pulmonary Tuberculosis	Diarrhœa and Enteritis	Bronchitis and Pneumonia
12,992	27·3	24·9	154	4·15	1·07	4·84

Number of tenements of 4 rooms and under with more than 2 persons per room—53

Since the last census, overcrowding, in this sense, has certainly increased, owing to the causes already mentioned.

In a recent survey of the district under the Housing and Town Planning, etc., Act, 1919, it was shown that the number of tenements with more than two occupants per room amounted to 1,126, and that a very large proportion of the Working Class houses, intended for one family only, are now occupied by two or more families (without having been specially adapted).

VITAL STATISTICS.—The following general conclusions may be drawn from a perusal of the Statistical Tables contained in this and previous Annual Reports.

1.—There is a steadily falling birth-rate, *i.e.*, from 35·3 per 1,000, the average in the year 1892–1901, to 18·5 in 1917, 18·9 in 1918, and 18·1 in 1919.

2.—There is a declining death-rate at all ages, and consequently an increased expectation of life from birth upwards.

3.—There is a lessened mortality amongst infants under one year of age, affecting chiefly the later months in the first year of life, and not affecting the mortality in the first month, which has remained stationary for many years.

4.—There has been a gradual decline in the mortality from Pulmonary Phthisis, *i.e.*, from 3·21 per 1,000 in 1880 to 1·09 in 1908, but no appreciable decline since the later period, notwithstanding the special measures taken with a view to the reduction of this mortality under the Tuberculosis Regulations and Sanatorium Benefit Schemes under the Insurance Acts.

5.—There has been a marked decline in the mortality from Enteric Fever, *i.e.*, from 0·19 per 1,000 in 1891 to 0·01 in 1919, coinciding in point of time with the provision of a pure water supply and with improved sanitation in the district.

6.—The mortality from all and several causes is invariably higher in those Wards in the town in which the housing and environment are least satisfactory.

The following Table gives the population of Cardiff according to the census returns since 1801. The increase shown between 1871 and 1881 was in part due to the extension of the boundaries of the Borough, by the inclusion of the districts of Roath and Canton, in the year 1875.

TABLE IV.

Year.	Census Population
1801	1,870
1811	2,457
1821	3,521
1831	6,187
1841	10,077
1851	18,351
1861	32,954
1871	39,536
1881	82,761
1891	128,915
1901	164,333
1911	182,259

TABLE V.

Estimated population on the basis of inhabited houses.

Average per house, 1912 to 1914 = 5·8
" " " 1915 to 1919 = 6·0

Year.	Inhabited Houses.	Population.
1912	31,694	183,825
1913	32,164	186,551
1914	32,306	187,374
1915	32,854	197,124
1916	33,048	198,288
1917	33,172	199,032
1918	33,172	199,032
1919	33,172	204,436

TABLE VI.

BIRTHS AND DEATHS IN CARDIFF, 1912 to 1919.

Year	Births	Deaths	Excess of Births over Deaths
1912	4,597	2,563	2,034
1913	4,900	2,567	2,333
1914	4,783	2,644	2,139
1915	4,645	2,808	1,837
1916	4,375	2,546	1,829
1917	3,635	2,433	1,202
1918	3,729	3,188	541
1919	3,869	2,652	1,217
TOTALS	34,533	21,401	13,132

TABLE VII.

DEATH-RATE, BIRTH-RATE, and INFANT MORTALITY, 1912 to 1919.

Year.	Death-rate.	Infant Mortality.	Birth-rate.
1912	13·9	110	24·9
1913	13·7	115	26·2
1914	14·0	109	25·3
1915	14·8	106	24·6
1916	13·7	89	23·6
1917	13·4	99	18·5
1918	18·1	102	18·9
1919	12·9	94	18·1

The following is a SUMMARY OF THE VITAL STATISTICS for the year 1919.

Estimated Civil Population ... 204,436.

Births	3,869	Birth-rate per 1,000 ...	18·1
Deaths	2,652	Death-rate per 1,000 ...	12·9
Deaths from Zymotic Diseases	156	Zymotic death-rate per 1,000	0·76
Deaths under 1 year ...	367	Deaths under 1 year per 1,000 births	94

TABLE VIII.

Table showing the number of deaths and death-rates per 1,000 from Zymotic, Respiratory and Tuberculous Diseases during the year 1919, compared with the average annual death-rates from these diseases during the preceding ten years :—

Cause of Death	Number of Deaths	Death-rate per 1,000	Death-rate per 1,000, 1909-1918 (average)
Small-pox	...	...	0·00
Measles	...	...	0·25
Scarlet Fever	41	0·20	0·05
Diphtheria	16	0·07	0·16
Enteric Fever	3	0·01	0·06
Whooping Cough	36	0·17	0·21
Respiratory Diseases	452	2·21	2·27
Pulmonary Tuberculosis	258	1·26	1·33
Other Tuberculous Diseases	66	0·32	0·39

TABLE IX.

Table showing the birth-rate and death-rate per 1,000 persons living, and rate of infant mortality in 1919, compared with the rates in 1918, the average rates for the ten years 1909–1918 in Cardiff, and the rates during the year 1919 in England and Wales and the 96 great towns :—

	Period	Birth-rate	Death-rate	Deaths under one year per 1,000 births
Cardiff	1919	18·1	12·9	94
Cardiff	1918	18·9	18·1	102
Cardiff	1909-1918	23·7	14·0	107
England and Wales	1919	18·5	13·8	89
96 Great Towns	1919	19·0	13·8	93

MARRIAGES.—The return of the number of marriages in the City of Cardiff during the years 1904–1919, with the rate of persons married per 1,000 of the population, is given below :—

TABLE X.

YEAR.	MARRIAGES.	RATE OF PERSONS MARRIED PER 1,000 living
1904	1,563	17·7
1905	1,650	18·8
1906	1,769	19·2
1907	1,743	18·5
1908	1,759	18·3
1909	1,803	18·4
1910	1,728	17·3
1911	1,646	18·0
1912	1,938	20·9
1913	1,976	21·1
1914	2,225	23·6
1915	2,401	25·4
1916	1,825	19·7
1917	1,710	18·9
1918	1,796	18·2
1919	2,892	27·1

BIRTHS.—During the year 1919 the births registered in the City numbered 3,965 ; of these 2,068 were males and 1,897 were females. The nett number of births belonging to the City was 3,869 ; of these 2,021 were males, and 1,848 females. The number of births corresponded to an annual birth-rate of 18·1 per 1,000 persons living. During the ten years ended 1891, the birth-rate in Cardiff averaged 39·9 per 1,000, as compared with 24·0, the average rate during the years 1909–1918.

The following table gives the annual number of births and the birth-rates in Cardiff in periods since 1852, from which it will be seen that a considerable decline in this rate has taken place during recent years.

TABLE XI.

Period.	Number of Births.		Birth-rate per 1,000.	
1852–1861	1,144	Average	44·2	Average
1862–1871	1,364		37·7	
1872–1881	2,433		36·5	
1882–1891	4,166		39·9	
1892–1901	5,241		35·3	
1902–1911	5,049		28·9	
1912	4,597		24·9	
1913	4,900		26·2	
1914	4,783		25·3	
1915	4,645		24·6	
1916	4,375		23·6	
1917	3,635		18·5	
1918	3,729		18·9	
1919	3,869		18·1	

TABLE XII.

Showing the number of legitimate and illegitimate births, male and female, in each municipal ward during the year 1919 :—

Municipal Wards.	Legitimate.		Illegitimate.		Totals.		TOTALS.
	Males.	Females.	Males.	Females.	Males.	Females.	
Central	111	101	14	11	125	112	237
South	119	99	7	5	126	104	230
Cathays	228	176	9	10	237	186	423
Adamsdown ...	130	140	6	10	136	150	286
Riverside	150	127	12	2	162	129	291
Canton	247	268	8	10	255	278	533
Grangetown ...	315	260	5	12	320	272	592
Roath	219	204	4	9	223	213	436
Park	184	171	18	16	202	187	389
Splott	230	210	5	7	235	217	452
Totals ...	1,933	1,756	88	92	2,021	1,848	3,869

DEATHS.—The total number of deaths registered at all ages and from all causes in the City of Cardiff during the year 1919 amounted to 2,846, including non-residents who died within the district. If corrected by the subtraction of the Military and non-residents who died in public institutions in Cardiff, and by the addition of residents who died in institutions outside the City, the number is 2,652, corresponding to an annual death-rate of 12·9.

From Table XIII. it will be seen that a continuous decline in the death-rate has taken place since these rates were first recorded in 1852–1861, when the mean rate for the ten years reached 29·2 per 1,000.

The death-rate throughout the country as compared with that of Cardiff for the year 1919 is given below :—

	Death-rate per 1,000 persons living.
England and Wales	13·8
96 Great Towns	13·8
148 Smaller Towns	12·6
CARDIFF	12·9

TABLE XIII.

The following table gives the vital statistics in periods since 1852, and shows the marked decline in the general death-rate, in the death-rate from zymotic diseases, and in the birth-rate in successive periods :—

Years	Population	Births	Birth-rate per 1,000	Deaths	Death-rate per 1,000	Deaths from Zymotic Diseases	Zymotic Death-rate per 1,000
1852—1861 ...	25,889	1,144	44·2	756	29·2	222	8·58
1862—1871 ...	36,152	1,364	37·7	875	24·2	167	4·62
1872—1881 ...	66,639	2,433	36·5	1,335	20·0	218	3·27
1882—1891 ...	104,420	4,166	39·9	2,255	21·6	347	3·32
1892—1901 ...	148,606	5,241	35·3	2,674	18·0	355	2·39
1902—1911 ...	174,490	5,049	28·9	2,597	14·8	286	1·63
1912	184,633	4,597	24·9	2,563	13·9	362	1·96
1913	186,554	4,900	26·2	2,567	13·7	258	1·38
1914	188,495	4,783	25·3	2,644	14·0	314	1·66
1915	188,495	4,645	24·6	2,808	14·8	233	1·23
1916	184,900 (Civil)	4,375	23·6	2,546	13·7	171	0·92
1917	180,341 (do.)	3,635	18·5	2,433	13·4	139	0·77
1918	175,587 (do.)	3,729	18·9	3,188	18·1	222	1·26
1919	204,436 (do.)	3,869	18·1	2,652	12·9	156	0·76

Means. Means. Means. Means. Means.

TABLE XIV.

Showing the number of deaths and death-rates at various age periods during the last six years :—

Ages.	Number of Deaths.						Death-rate per 1,000 persons living at each age group.					
	1914	1915	1916	1917	1918	1919	1914	1915	1916	1917	1918	1919
Under 5 years	793	742	582	521	713	536	38·1	35·6	27·9	25·8	34·2	23·7
5 to 15 ,,	113	130	111	90	162	116	2·8	3·2	2·8	2·3	4·1	2·7
15 ,, 25 ,,	132	142	153	174	304	195	3·6	3·9	4·2	4·9	8·4	4·9
25 ,, 65 ,,	993	1,060	979	983	1,365	1,097	11·7	12·4	11·5	11·9	16·0	11·9
65 years and upwards ...	613	734	721	665	644	708	85·1	101·9	100·1	95·5	89·4	90·6
At all Ages ...	2,644	2,808	2,546	2,433	3,188	2,652	14·0	14·8	13·7	13·4	18·1	12·9

TABLE XV.

Death-rates from all causes per 1,000 persons living in the several municipal wards, the highest rate in each year being underlined :—

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Cardiff (Whole District) ...	13·0	14·1	13·9	13·7	14·0	14·8	13·7	13·4	18·1	12·9
Roath Ward	11·9	13·0	12·8	9·5	10·4	12·3	11·1	9·6	13·3	12·0
Park Ward	9·3	12·4	11·9	10·8	11·7	12·5	11·1	11·9	14·8	11·4
Splott ,, ...	12·9	12·9	14·0	14·2	17·8	14·1	10·3	11·0	16·1	11·6
Central ,, ...	20·4	22·1	21·0	19·4	22·9	21·8	22·4	18·3	23·8	20·4
South ,, ...	18·3	21·4	19·1	21·2	22·6	17·9	23·9	23·8	29·9	24·6
Cathays ,, ...	10·5	12·3	12·6	13·3	10·9	13·4	11·4	11·8	13·9	12·3
Adamsdown Ward ...	14·9	16·3	16·3	16·6	15·7	18·0	16·9	13·8	18·4	15·2
Riverside ,, ...	13·6	12·6	10·6	12·1	11·5	13·9	12·8	12·3	13·3	13·8
Canton ,, ...	10·7	12·7	12·9	12·0	12·9	12·8	10·8	10·8	14·0	14·0
Grangetown ,, ...	14·0	14·2	15·6	15·3	13·8	15·7	13·3	11·6	18·4	13·0

TABLE XVI.—Analysis of Births and Deaths in the City of Cardiff, in Registration Sub-Districts, and in Municipal Wards, during the year 1919.

LOCALITIES	*Population (Civil)	† Area in Acres (excluding Inland Water)	Persons per Acre	Births		Deaths		Deaths under 1 Year		Seven Principal Zymotic Diseases		Principal Zymotic Diseases.																Phthisis, Pulmonary Tuberculosis		Other Tuberculous Diseases.		Respiratory Diseases	
												Small-pox		Measles		Scarlet Fever		Whooping Cough		Diphtheria		Typhoid Fever		Diarrhœa							
				Number	Birth-rate	Number	Death-rate	Number	Number per 1,000 Births	Number	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate
City of Cardiff ...	204,436	5,170	39·5	3,869	18·1	2,652	12·9	367	94	156	0·76	...	...	...	...	41	0·20	36	0·17	16	0·07	3	0·01	60	0·29	258	1·26	66	0·32	452	2·21
East Cardiff Registration Sub-District: Roath Ward ...	22,842	750	...	436	19·0	237	10·3	22	50	7	0·30	...	...	...	...	3	0·13	2	0·08	1	0·04	...	...	1	0·04	24	1·05	8	0·35	44	1·92
East Cardiff Registration Sub-District: Park Ward ...	27,942	539	...	389	13·9	270	9·6	43	110	20	0·71	...	...	...	...	4	0·14	7	0·25	1	0·03	...	...	8	0·28	33	1·18	8	0·28	36	1·28
East Cardiff Registration Sub-District: Splott Ward ...	19,338	818	...	452	23·3	231	11·9	31	68	15	0·77	...	...	...	...	6	0·31	3	0·15	2	0·10	...	...	4	0·20	15	0·77	6	0·31	30	1·55
East Cardiff	70,122	2,107	33·2	1,277	18·2	738	10·5	96	75	42	0·59	...	...	...	...	13	0·18	12	0·17	4	0·05	...	...	13	0·18	72	1·02	22	0·31	110	1·56
Central Cardiff Registration Sub-District: Central Ward ...	10,908	457	...	237	21·7	233	21·3	33	139	12	1·10	...	...	...	...	3	0·27	2	0·18	1	0·09	...	...	6	0·55	32	2·93	7	0·64	42	3·85
Central Cardiff Registration Sub-District: South Ward ...	9,636	163	...	230	23·8	247	25·6	28	121	15	1·55	...	...	...	...	1	0·10	5	0·51	2	0·20	2	0·20	5	0·51	49	5·08	7	0·72	44	4·56
Central Cardiff Registration Sub-District: Cathays Ward ...	25,602	382	...	423	16·5	288	11·2	41	96	21	0·82	...	...	...	...	5	0·19	4	0·15	1	0·03	...	...	11	0·42	18	0·70	3	0·11	45	1·75
Central Cardiff Registration Sub-District: Adamsdown Ward	11,718	172	...	286	24·4	209	17·8	32	111	15	1·28	...	...	...	...	2	0·17	1	0·08	2	0·17	1	0·08	9	0·76	17	1·45	4	0·34	23	1·96
Central Cardiff ...	57,864	1,174	49·2	1,176	20·3	977	16·8	134	113	63	1·08	...	...	...	...	11	0·19	12	0·20	6	0·10	3	0·05	31	0·53	116	2·00	21	0·36	154	2·66
West Cardiff Registration Sub-District: Riverside Ward...	18,870	298	...	291	15·4	278	14·7	32	109	15	0·79	...	...	...	...	6	0·31	3	0·15	...	...	...	...	6	0·31	21	1·11	8	0·42	45	2·38
West Cardiff Registration Sub-District: Canton Ward ...	29,358	448	...	533	18·1	335	11·4	47	88	17	0·57	...	...	...	...	7	0·23	5	0·17	3	0·10	...	...	2	0·06	25	0·85	6	0·20	81	2·75
West Cardiff Registration Sub-District: Grangetown Ward	22,818	1,143	...	592	25·9	324	14·1	58	98	19	0·83	...	...	...	...	4	0·17	4	0·17	3	0·13	...	...	8	0·35	24	1·05	9	0·39	62	2·71
West Cardiff	71,046	1,889	37·6	1,416	19·9	937	13·1	137	96	51	0·71	...	...	...	...	17	0·23	12	0·16	6	0·08	...	...	16	0·22	70	0·98	23	0·32	188	2·64

* The civil population of the whole city is that estimated by the Registrar-General, and the populations of the Registration Sub-districts and of the Municipal Wards are estimated on the basis of the number of inhabited houses in September, 1917.

† Area in Statute acres (Land and Water), 6,373 acres (Census, 1911).

INFECTIOUS DISEASES.—The 2,652 deaths from all causes included 156 from the principal infectious diseases. This number was equal to an inclusive death-rate from these diseases of 0·76 per 1,000 persons living, as compared with 1·26 the rate in 1918, and with 1·30 the average rate for the ten years 1909–1918.

The mortality from these diseases in Cardiff was distributed in each quarter of the year 1919 as follows :—

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
Measles ...	—	—	—	—
Scarlet Fever ...	4	4	12	21
Diphtheria ...	5	4	2	5
Enteric Fever ...	1	—	—	2
Whooping Cough ...	8	12	7	9
Diarrhœa ...	3	7	41	9

In the Registration Sub-Districts, the mortality during 1919 from these diseases was as follows :—

	No. of Deaths	Death-rate per 1,000.
East Cardiff	42	0·59
Central ,, ...	63	1·08
West ,, ...	51	0·71

TABLE XVII

Death-rates from the principal Infectious Diseases per 1,000 persons living in Cardiff :—

	1912	1913	1914	1915	1916	1917	1918	1919
Small-pox	0·00	0·00	0·00	0·00	0·01	0·00	0·00	0.00
Measles	1·09	0·05	0·32	0·19	0·10	0·07	0·42	0·00
Scarlet Fever	0·04	0·09	0·10	0·05	0·03	0·01	0.02	0·20
Diphtheria	0·17	0·22	0·22	0·23	0·18	0·10	0·15	0·07
Whooping Cough ...	0·29	0·09	0·38	0·18	0·15	0·24	0·15	0·17
Enteric Fever	0·08	0·03	0·06	0·01	0·02	0·02	0·04	0·01
Diarrhœa	0·27	0·89	0·56	0·55	0·40	0·30	0.45	0·29

TABLE XVIII.

The following table shows the number of cases of infectious disease notified in the City of Cardiff in each year since the adoption of the Infectious Disease (Notification) Act, 1889 :...

Year	Small-Pox.	Diphtheria (including Membranous Croup).	Scarlet Fever.	Enteric Fever.	Typhus Fever.	Erysipelas.	Puerperal Fever.	Continued Fever.	Pulmonary Tuberculosis.	Other Forms of Tuberculosis.	Measles	Totals.
1890	—	72	335	150	—	45	4	2	—	—	—	608
1891	9	70	658	130	—	52	10	—	—	—	—	956
1892	5	164	1,851	118	—	95	12	3	—	—	—	2,248
1893	4	479	816	103	41	152	24	2	—	—	—	1,621
1894	10	343	577	62	1	135	19	3	—	—	—	1,150
1895	1	248	484	79	—	132	17	5	—	—	—	966
1896	45	306	874	74	1	134	21	7	—	—	—	1,462
1897	7	516	758	117	—	163	12	7	—	—	—	1,580
1898	—	960	332	80	—	133	18	6	—	—	—	1,529
1899	—	640	184	94	—	176	13	8	—	—	—	1,115
1900	4	714	383	95	4	106	15	5	—	—	—	1,326
1901	8	734	1,362	73	—	152	16	3	—	—	—	2,348
1902	2	701	1,433	69	—	169	13	7	—	—	—	2,394
1903	65	438	963	100	6	145	20	5	—	—	—	1,742
1904	11	406	658	40	—	112	12	2	—	—	—	1,241
1905	24	327	362	39	—	133	14	3	—	—	—	902
1906	2	333	776	77	—	117	17	1	—	—	—	1,323
1907	16	304	950	62	—	147	16	—	—	—	—	1,495
1908	—	291	475	55	—	167	15	1	—	—	—	1,004
1909	2	283	616	46	—	132	6	2	—	—	—	1,087
1910	1	363	887	36	—	137	8	—	346	—	—	1,778
1911	—	491	753	44	—	127	8	—	366	—	—	1,789
1912	—	536	472	56	—	170	11	—	499	—	—	1,744
1913	3	558	902	27	—	145	8	—	520	166	—	2,329
1914	3	620	1,086	29	—	125	11	—	353	81	—	2,308
1915	—	469	751	20	—	100	12	1	368	102	—	1,823
1916	51	384	478	26	—	90	9	1	372	141	1,799	3,350
1917	—	266	248	13	—	48	8	—	349	110	1,738	2,780
1918	—	252	407	18	—	71	2	—	458	103	2,371	3,682
1919	19	257	2,166	10	—	78	16	—	322	74	447	3,389

Other cases notified under the Public Health (Notification of Infectious Disease) Regulations, 1918 :—

Encephalitis Lethargica	5
Malaria	76
Acute Primary and Acute Influenzal Pneumonia	350
Cerebro Spinal Meningitis	1

SCARLET FEVER.—Forty-one deaths were registered from scarlet fever during the year 1919, being equal to an annual death-rate of 0·20 per 1,000 persons living, as compared with 0·02 the rate in 1918, and with 0·05, the average rate in the ten years 1909–1918.

The mortality from scarlet fever throughout the country was as follows during the year 1919 :—

England and Wales	0·03
96 Great Towns	0·04
148 Smaller Towns	0·03
Cardiff	0·20

The number of cases of scarlet fever notified during the year amounted to 2,166, as compared with 407, the number notified in the previous year. The sickness-rate, or rate of notified cases per 1,000 of the population, amounted to 10·59.

The number of cases of scarlet fever notified during each quarter of the year in the three registration sub-districts were as follows :—

Registration Sub-Districts.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
East Cardiff ...	74	86	210	490	860
Central ,, ...	56	77	90	221	444
West ,, ...	42	113	275	432	862

TABLE XIX.

The age periods of persons notified to be suffering from scarlet fever and the percentage proportion of deaths to cases notified in each age period were as follows :—

Ages.	No. of cases notified.		Total	No. of Deaths.		Total	Mortality per cent.	
	M.	F.		M.	F.		M.	F.
0— 1 year	6	4	10	...	...	...	...	...
1— 5 years ...	226	250	476	9	11	20	3·9	4·4
5—15 ,, ...	618	830	1,448	7	9	16	1·1	1·0
15—25 ,, ...	47	96	143	1	...	1	2·1	...
25—65 ,, ...	29	60	89	...	4	4	...	6·6

TABLE XX.

Number of cases removed to the Cardiff Isolation Hospital :—

Ages.	M.	F.	Total	Died. M.	Died. F.	Total	Mortality per cent M.	Mortality per cent F.
0— 1 year	3	...	3	...	...	...	...	...
1— 5 years	101	114	215	7	6	13	6·9	5·2
5—15 ,, ...	332	425	757	5	2	7	1·5	0·4
15—25 ,, ...	21	56	77	1	...	1	4·7	...
25—65 ,, ...	14	20	34	...	...	...	...	...

DIPHTHERIA AND MEMBRANOUS CROUP.—Sixteen deaths were registered from these diseases during the year, corresponding to an annual death-rate of 0·07 per 1,000 persons living, as compared with 0·15, the rate in 1918, and with 0·16, the rate in the ten years 1909–1918.

The mortality from diphtheria throughout the country was as follows during the year 1919 :

	Death-rate per 1,000.
England and Wales	0·13
96 Great Towns	0·14
148 Smaller Towns	0·12
CARDIFF	0·07

The number of cases of diphtheria and membranous croup notified during the year amounted to 257, as compared with 252 in 1918. The fatality, or proportion of deaths to cases notified, was 6·2 per cent. Of the cases notified, 189, or 73·5 per cent., were removed to the Cardiff Isolation Hospital.

Number and distribution of cases of diphtheria notified during each quarter of the year 1919 :—

Registration Sub-Districts.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
East Cardiff ...	15	26	23	30	94
Central ,, ...	22	11	15	22	70
West ,, ...	23	23	16	31	93

TABLE XXI.

The number of notifications and the rate of fatality at various age periods during 1919, are shewn below :—

Ages.	No. of Cases Notified.		Total	No. of Deaths.		Total	Mortality per cent.	
	M.	F.		M.	F.		M.	F.
0— 1 year	2	...	2	1	...	1	50·0	...
1— 5 years	32	24	56	4	5	9	12·5	20·8
5—15 ,, ...	77	76	153	2	2	4	2·5	2·6
15—25 ,, ...	4	21	25	...	1	1	...	4·7
25—65 ,, ...	10	11	21	1	...	1	10·0	...

TABLE XXII.

Number of cases removed to the Cardiff Isolation Hospital :—

Ages		Total	Died		Total	Mortality per cent	
	M.	F.	M.	F.		M.	F.
0— 1 year	...	1	1	...	...	...	...	...
1— 5 years ...	21	20	41	2	4	6	9·5	20·0
5—15 ,, ...	60	58	118	...	1	1	...	1·7
15—25 ,, ...	1	15	16	...	1	1	...	6·6
25—65 ,, ...	6	7	13	1	...	1	16·6	...

During the year swabs were sent to the Cardiff and County Public Health Laboratory from the throats of 271 cases suspected to be diphtheria, the bacteriological examination giving positive results in 52 cases, and negative results in 219.

ENTERIC FEVER.—The number of deaths registered from enteric fever during the year amounted to 3, being equivalent to an annual death rate of 0·01 per 1,000 persons living, as compared with 0·04 in the year 1918, and with 0·03 the average death-rate in the ten years 1909–1918.

The mortality from this disease in the year 1919 throughout the country was as follows :—

	Death-rate per 1,000.
England and Wales	0·01
96 Great Towns	0·01
148 Smaller Towns	0·01
CARDIFF	0·01

The number of cases of enteric fever notified during 1919 was 10 ; of these 8 or 80·0 per cent., were removed to the Cardiff Isolation Hospital.

The following table shows the death-rates per 1,000 from enteric fever in periods since the year 1891 in Cardiff :—

1891-1900	1901-1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
0·14	0·05	0·03	0·08	0·03	0·06	0·01	0·02	0·02	0·04	0·01

SMALL–POX.—No death from this disease was registered during the year. The number of cases notified was nineteen.

I am indebted to the Vaccination Officer for the following return of vaccinations within the City during the year 1919 :—

TABLE XXIII.

Successfully Vaccinated	Insusceptible	Postponed	Certificates of exemption and Statutory Declarations	Died Unvaccinated	Unaccounted for and left the town
2,339	9	64	850	356	88

CARDIFF ISOLATION HOSPITAL.

Report of the Medical Superintendent for the year 1919.

	0 to 5 years.	5 to 15 years.	15 to 25 years.	25 to 35 years.	35 to 45 years.	45 to 55 years	Totals.
Remaining in Hospital 28th Dec., 1918 :—							
Scarlet Fever	29	37	10	2	...	1	79
Diphtheria	3	12	1	2	...	...	18
Enteric Fever	...	...	3	...	...	...	3
Other Diseases	...	...	3	...	...	...	3
Totals	32	49	17	4	...	1	103
Admitted during the year 1919 :—							
Scarlet Fever	236	715	91	26	14	1	1,083
Diphtheria	39	115	23	13	3	...	193
Enteric Fever	...	5	5	...	2	...	12
Small Pox	...	3	6	8	1	1	19
Other Diseases	...	1	11	8	...	1	21
Totals	275	839	136	55	20	3	1,328
Totals under Treatment in 1919	307	888	153	59	20	4	1,431
Of the above there were discharged :—							
(*a*) Recovered :—							
Scarlet Fever	207	647	83	22	12	2	973
Diphtheria	33	110	21	13	3	...	180
Enteric Fever	...	4	8	...	2	...	14
Small Pox	...	3	6	8	1	1	19
Other Diseases	...	1	13	8	...	...	22
Totals	240	765	131	51	18	3	1,208
(*b*) Died :—							
Scarlet Fever	14	5	...	...	...	...	19
Diphtheria	6	2	1	1	...	...	10
Enteric Fever	...	1	...	1	...	...	2
Other Diseases	...	...	1	...	...	...	1
Totals	20	8	2	2	...	...	32
Remaining in Hospital 27th Dec., 1919 :—							
Scarlet Fever	44	100	18	6	2	...	170
Diphtheria	3	15	2	...	...	...	20
Other Diseases	...	...	...	...	...	1	1
Totals	47	115	20	6	2	1	191
Totals under treatment in 1919	307	888	153	59	20	4	1,431

Mortality per cent. under treatment :—

Scarlet Fever... ...	1·63	Small Pox ...	Nil.
Diphtheria	4·7	Other Diseases ...	4·2
Enteric Fever ...	13·0		

B. W. BROAD, M.B., *Medical Superintendent.*

TUBERCULOSIS.—In my annual report for 1913, a somewhat detailed account was given of the methods adopted in this district with a view of preventing the spread of tuberculosis, the relation of the Sanitary Authority to the work under the Insurance Act, and to the co-operation with the Welsh National Memorial Association, so that it is unnecessary to enter upon these matters on this occasion. I am indebted to Dr. Gilchrist, the Tuberculosis Physician for the Cardiff area, for much of the information contained in the several tables relating to the treatment of this disease. and I may mention that this town and neighbourhood are also much indebted to him for the excellent work which he has accomplished at the "Institute" or Tuberculosis Dispensary.

It is obvious that the most intimate official association must exist between the Medical Officer of Health and the Tuberculosis Officer, even when the latter Officer is not on the staff of the former, as is usually the case throughout the country. This association is facilitated in Cardiff, and probably elsewhere, by the Health Visitors on the staff of the Medical Officer of Health, calling on certain days at the Dispensary, and arranging with the Tuberculosis Officer for the home visitation of cases under his care at that institution. They visit also other cases, insured and uninsured, whose condition and circumstances, in the opinion of the Medical Officer of Health, are such as to require visitation. The reports of the Health Visitor are made to the Medical Officer of Health, and are recorded on cards, which are filed and kept for reference in the Health Office, and the Tuberculosis Officer has access to the records of those cases in which he is concerned when the Health Visitor attends at the Dispensary. In this way no overlapping in the home visitation can occur, as it is carried out solely by the staff of the Medical Officer of Health.

It would hardly be necessary to emphasize the fact that the prevention of tuberculosis forms an important part of the duty of Sanitary Authorities, were it not that some misapprehension has arisen in some parts of Wales with respect to the function of the Memorial Association, to whom the institutional treatment has been referred by Insurance Committees and Sanitary Authorities. No voluntary association can relieve these authorities of any of their statutory duties and powers. They are responsible to the public for the preventive measures undertaken, and also under recent legislation for the treatment of tuberculosis, whether this latter is undertaken directly or by their officers, or indirectly on their behalf by other persons. In County Boroughs and large Urban Districts, however, the first unit of the scheme, viz., the Tuberculosis Dispensary, should obviously form part of the public health department of the district. Even here advantage could be taken of the excellent medical arrangements of the Memorial Association, and the services of their staff could be utilized for the clinical work at the dispensary.

In this connection it must be remembered that, however useful institutional treatment may be when carried out on the best lines, it would be a misfortune if the present campaign, in which this form of treatment finds a prominent place, should in any way have the effect of diverting attention from other and perhaps more important methods of preventing the disease. If tuberculosis is to be stamped out, it must be attacked in the home.

The time is rapidly approaching when it will be necessary to contemplate a more comprehensive scheme of organization of the several Clinics which are now in operation or in course of completion and extension and which are either directly or indirectly under the control of the Sanitary Authority or Education Authority, including of course the Tuberculosis Institute or Dispensary in this district. Rooms in the City Hall are now used for some of these Clinics, but the ever increasing numbers which attend are a source of embarrassment in consequence of the limited accommodation. For these and other reasons I have on more than one occasion, advocated the unification, so far as location is concerned, of all the Clinics supported or subsidised by the Sanitary and Education Authorities, which are established with the consent of the Ministry of Health and Board of Education and which are assisted by Treasury Grants, *i.e.*, Tuberculosis Clinic or Dispensary, Venereal Disease Clinics, School Clinics, Maternity, and Child Welfare Clinics, Clinic of Neurology and Psychiaty, etc.

Already some of these Clinics have been established or are about to be established in connection with the Out-patient Department of King Edward VII's Hospital and it would probably be an economical and convenient arrangement to locate these Clinics in some Central Institution. At the present time this hospital is not in a position to offer the facilities for carrying out a complete scheme such as that suggested, they have indeed quite insufficient accommodation for their immediate needs, but it is certain that the authorities of this hospital will soon have to provide further

ward accommodation, and that this could not be effected on the present site, as this is already overcrowded with buildings.

The alternative would be the removal of the greater part of the in-patient hospital to a more suitable position, where ample hospital provision could be made to meet the requirements of the populous district to be served. If this could be effected, the present buildings in Newport Road could be adapted and utilized for the several Clinics and a certain number of beds could be set apart for each Clinic.

The deaths from all forms of tuberculosis during the year 1919 amounted to 324, including 258 from pulmonary tuberculosis or phthisis. The mortality from phthisis was equal to an annual death-rate of 1·26 per 1,000, as compared with 1·35 the average rate in the ten years, 1909–1918. The 324 deaths from tuberculosis during the year 1919, include 37 in Glan Ely Hospital, 5 in Sanatoria, 34 in the Cardiff Union Infirmary (including Ely Lodge), 12 in King Edward VII's Hospital, and 22 in other Institutions; the remaining 214 dying in their own homes at Cardiff.

The mortality from phthisis and other forms of tuberculosis in Cardiff since the year 1880 is shown in the following table :—

TABLE XXV.

Year.	Deaths from Phthisis.	Deaths from Other Forms of Tuberculosis.	Death-rate per 1,000 (Phthisis).	Year	Deaths from Phthisis.	Deaths from Other Forms of Tuberculosis.	Death-rate per 1,000 (Phthisis).
1880 ...	177 ...	89 ...	3·21	1900 ...	212 ...	110 ...	1·25
1881 ...	176 ...	77 ...	2·96	1901 ...	179 ...	122 ...	1·05
1882 ...	187 ...	68 ...	2·86	1902 ...	224 ...	98 ...	1·34
1883 ..	186 ...	58 ...	2·67	1903 ...	217 ...	93 ...	1·28
1884 ...	223 ...	55 ...	2·97	1904 ...	246 ...	98 ...	1·44
1885 ...	241 ...	107 ...	3·58	1905 ...	235 ...	103 ...	1·36
1886 ...	214 ...	67 ...	2·78	1906 ...	229 ...	95 ...	1·31
1887 ...	210 ...	75 ...	2 72	1907 ...	220 ...	91 ...	1·25
1888 ...	211 ...	93 ...	2·80	1908 ...	218 ...	94 ...	1·09
1889 ...	224 ...	108 ...	2·79	1909 ...	234 ...	74 ...	1·19
1890 ...	231 ...	142 ...	3·18	1910 ...	216 ...	88 ...	1·08
1891 ...	239 ...	124 ...	2·78	1911 ...	235 ...	81 ...	1·28
1892 ...	242 ...	127 ...	1·82	1912 ...	244 ...	64 ...	1·32
1893 ...	230 ...	151 ...	1·68	1913 ...	233 ...	69 ...	1·24
1894 ...	227 ...	134 ...	1·62	1914 ...	230 ...	63 ...	1·22
1895 ...	242 ...	127 ...	1·67	1915 ...	252 ...	96 ...	1·33
1896 ...	203 ...	114 ...	1·38	1916 ...	255 ...	91 ...	1·37
1897 ...	206 ...	131 ...	1·99	1917 ...	281 ...	58 ...	1·55
1898 ...	203 ...	117 ...	1·32	1918 ...	312 ...	66 ...	1·77
1899 ...	208 ...	119 ...	1·32	1919 ...	258 ...	66 ...	1·26

TABLE XXVI.

Death-rates from Phthisis per 1,000 persons living in the several Municipal Wards :—

	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
CARDIFF ...	1·22	1·30	1·19	1·28	1·32	1·24	1·22	1·33	1·37	1·55	1·77	1·26
Roath Ward	0·71	0·96	1·18	1·11	0·83	0·80	0·49	0·90	0·72	0·67	0·94	1·05
Park ,,	0·82	0·95	0·92	1·24	0·99	0·57	1·03	1·15	1·36	1·85	1·39	1·18
Splott ,,	0·81	0·69	0·76	1·19	1·09	0·86	1·11	1·07	1·10	1·41	1·26	0·77
Central ,,	1·22	0·81	1·77	3·44	2·64	3·04	2·35	2·89	3·75	2·26	2·26	2·93
South ,,	1·53	1·40	2·50	2·86	2·57	2·93	3·44	1·47	2·85	5·50	5·11	5·08
Cathays ,,	1·04	0·72	1·02	0·86	1·22	1·28	0·87	0·96	1·24	1·20	1·45	0·70
Adamsdown ,,	1·09	1·42	1·24	1·21	1·50	1·10	1·04	1·56	1·40	1·56	2·38	1·45
Riverside ,,	1·48	0·60	1·27	0·80	1·35	1·26	1·03	1·03	0·81	0·81	1·30	1·11
Canton ,,	0·76	0·98	1·05	1·04	1·17	1·29	1·35	1·14	0·69	0·95	1·57	0·85
Grangetown ,,	0·90	1·09	1·08	0·90	1·25	1·01	1·07	1·77	1.36	0·90	1·15	1·05

TABLE XXVII.

Deaths from Pulmonary Tuberculosis and Other Forms of Tuberculosis—age periods and sex :—

Age Periods	Deaths from Tuberculosis.					
	Pulmonary.			Non-Pulmonary.		
	Males	Females	Totals	Males	Females	Totals
Under 1 year	1	1	2	4	3	7
1 and under 5	2	3	5	5	11	16
5 ,, ,, 10	...	...	...	5	3	8
10 ,, ,, 15	3	9	12	5	6	11
15 ,, ,, 20	8	14	22	3	3	6
20 ,, ,, 25	21	15	36	...	1	1
25 ,, ,, 35	45	24	69	8	2	10
35 ,, ,, 45	35	15	50	2	2	4
45 ,, ,, 55	28	16	44	1	1	2
55 ,, ,, 65	10	4	14	1	...	1
65 and upwards	2	2	4	...	...	...
Totals ...	155	103	258	34	32	66

TABLE XXVIII

Deaths from Pulmonary Tuberculosis and Other Forms of Tuberculosis in Municipal Wards :—

	Deaths from Tuberculosis.					
	Pulmonary			Non-Pulmonary		
	Males	Females	Totals	Males	Females	Totals
Central	13	19	32	5	2	7
South	43	6	49	6	1	7
Cathays...	10	8	18	2	1	3
Adamsdown	12	5	17	1	3	4
Riverside	14	7	21	3	5	8
Canton	16	9	25	3	3	6
Grangetown	11	13	24	2	7	9
Roath	12	12	24	3	5	8
Park	16	17	33	5	3	8
Splott	8	7	15	4	2	6
Totals	155	103	258	34	32	66

TABLE XXIX.

Notifications of cases of Pulmonary Tuberculosis and Other Forms of Tuberculosis—age periods and sex :—

Age Periods.	Notifications of Tuberculosis					
	Pulmonary			Non-Pulmonary		
	Males	Females	Totals	Males	Females	Totals
Under 1 year	2	...	2	2	2	4
1 and under 5	1	3	4	4	4	8
5 ,, ,, 10	3	2	5	7	6	13
10 ,, ,, 15	4	12	16	4	9	13
15 ,, ,, 20	10	22	32	1	6	7
20 ,, ,, 25	37	34	71	3	4	7
25 ,, ,, 35	55	36	91	8	3	11
35 ,, ,, 45	37	16	53	4	5	9
45 ,, ,, 55	21	14	35	...	...	...
55 ,, ,, 65	10	2	12	2	...	2
65 and upwards	...	1	1	...	...	...
Totals	180	142	322	35	39	74

TABLE XXX.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

Summary of Notifications during the year 1919.

	Notifications on Form A.													Notifications on Form B.					Notifications on Form C.	
	Primary Notifications.												Total Notifications (i.e., including cases previously notified by other doctors)	Primary Notifications.				Total Notifications (i.e., including cases previously notified by other doctors).	Poor Law Institutions.	Sanatoria.
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 & upwards.	Total		Under 5	5 to 10	10 to 15	Total.			
Pulmonary :—																				
Males	2	1	3	4	10	37	55	37	21	10	...	180	248	...	...	...	...	...	5	242
Females	...	3	2	11	22	34	36	16	14	2	1	141	186	...	...	1	1	1	...	96
Non-Pulmonary :—																				
Males	2	4	6	3	1	3	8	4	...	2	...	33	33	...	1	1	2	2	...	13
Females	2	4	6	9	6	4	3	5	...	...	...	39	41	...	...	...	...	...	1	13
Totals	6	12	17	27	39	78	102	62	35	14	1	393	508	...	1	2	3	3	6	364

TABLE XXXI.

Notifications of cases of Pulmonary Tuberculosis and Other Forms of Tuberculosis in Municipal Wards :—

Municipal Wards	Notifications of Tuberculosis					
	Pulmonary			Non-Pulmonary		
	Males	Females	Totals	Males	Females	Totals
Central	16	15	31	2	4	6
South	40	8	48	5	—	5
Cathays...	19	16	35	2	5	7
Adamsdown	10	13	23	—	3	3
Riverside	26	13	39	7	7	14
Canton	14	15	29	4	2	6
Grangetown	15	22	37	3	6	9
Roath	13	12	25	4	8	12
Park	16	16	32	3	3	6
Splott	11	12	23	3	3	6
Totals	180	142	322	33	41	74

TABLE XXXII.

Cases of Tuberculosis visited by the Health Visitors—in Municipal Wards, and whether "insured" or "uninsured" persons, or "dependants."

Municipal Wards.	Insured.		Dependants.		Uninsured.		Totals
	Males	Females	Males	Females	Males	Females	
Central	39	18	15	30	10	8	120
South	38	5	13	18	13	5	92
Cathays	66	23	12	35	13	13	162
Adamsdown ...	17	9	7	16	1	1	51
Riverside	23	9	3	8	3	3	49
Canton	79	28	22	37	15	21	202
Grangetown ...	64	19	16	38	10	8	155
Roath	40	20	15	29	6	7	117
Park	56	29	14	30	18	10	157
Splott	56	25	24	48	11	12	176
Totals ...	478	185	141	289	100	88	1,281

TABLE XXXIII.

Cases admitted to and discharged from Sanatoria and Hospitals according to notifications (Forms C. and D.) received under the Tuberculosis Regulations, 1912 :—

Age Periods.	Admitted.			Discharged.		
	Males	Females	Totals	Males	Females	Totals
Under 1 year	...	...	...	...	...	...
1 and under 5	3	1	4	3	3	6
5 ,, ,, 10	7	6	13	10	6	16
10 ,, ,, 15	9	11	20	10	8	18
15 ,, ,, 20	11	27	38	11	23	34
20 ,, ,, 25	24	28	52	17	24	41
25 ,, ,, 35	47	26	73	45	24	69
35 ,, ,, 45	36	10	46	27	11	38
45 ,, ,, 55	16	3	19	18	5	23
55 ,, ,, 65	3	...	3	1	...	1
65 and upwards	1	...	1	...	...	...
Totals	157	112	269	142	104	246

Applications to the Cardiff Insurance Committee to Sanatorium Benefit and form of treatment recommended by the Committee :—

Applications	347
Form of Treatment :—	
Residential	187
Domiciliary	155
Institute (Dispensary)	136
No treatment	219

Many of the cases received more than one form of treatment ; the figures given above relate to the treatment recommended in all instances.

TABLE XXXIV.

New cases of Tuberculosis (residents of Cardiff) examined at the Tuberculosis Institute (Welsh National Memorial Association) :—

Age Periods	Males	Females	Totals
Under 1 year	...	...	...
1 and under 5	3	...	3
5 ,, ,, 10	4	2	6
10 ,, ,, 15	4	13	17
15 ,, ,, 20	13	20	33
20 ,, ,, 25	22	29	51
25 ,, ,, 35	41	23	64
35 ,, ,, 45	23	10	33
45 ,, ,, 55	11	9	20
55 ,, ,, 65	...	...	...
65 and upwards	...	...	...
Totals	121	106	227

TABLE XXXV.

Distribution of Tuberculosis Institute cases in Municipal Wards and whether insured or uninsured persons :—

Municipal Wards	Insured	Uninsured	Totals
Central	13	4	17
South	10	16	26
Cathays	20	9	29
Adamsdown	10	9	19
Riverside	12	13	25
Canton	16	7	23
Grangetown	19	11	30
Roath	12	8	20
Park	9	9	18
Splott	14	6	20
Totals	135	92	227

INFANT MORTALITY.—The rate of infant mortality in Cardiff in the year 1919, calculated in the proportion of deaths under one year of age to 1,000 births registered, was at the rate of 94, compared with 102 in the year 1918, and with 107, the average rate for the ten years 1909–1918.

Rates of infant mortality throughout the country, as compared with that of Cardiff during 1919 :—

	Deaths under 1 year per 1,000 births.
England and Wales	89
96 Great Towns	93
148 Smaller Towns	90
CARDIFF	94

TABLE XXXVI.

The following table shows the rates of infant mortality in the several municipal wards, the highest rate in each year being underlined :—

	Deaths under one year per 1,000 births.									
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Cardiff (Whole District) ...	111	135	110	115	109	106	89	99	102	94
Roath Ward	127	135	88	93	79	89	102	87	93	50
Park ,, ...	72	117	60	100	99	83	69	90	91	110
Splott ,, ...	109	152	93	111	160	73	80	71	104	68
Central ,, ...	179	160	199	136	113	155	212	123	147	139
South ,, ...	148	213	129	121	119	116	94	151	134	121
Cathays ,, ...	105	120	107	125	90	124	83	101	94	96
Adamsdown Ward ...	125	117	126	129	140	132	122	106	130	111
Riverside ,, ...	112	132	80	77	77	75	74	98	83	109
Canton ,, ...	94	120	115	107	100	95	51	80	89	88
Grangetown ,, ...	114	132	142	143	117	139	100	115	100	98

TABLE XXXVII.

The chief causes of death amongst infants under one year of age in Cardiff during the years 1910–1919 are shewn in the following table :—

Cause of Death.	Deaths under one year of age.									
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Premature Birth ...	96	97	91	115	99	95	65	68	62	62
Diarrhœa and Enteritis	77	201	44	125	88	88	63	44	64	53
Pneumonia	46	39	59	38	46	43	44	49	52	46
Bronchitis	46	26	53	40	31	33	21	48	29	34
Whooping Cough	11	32	22	9	38	21	15	19	6	16
Tuberculosis (all forms)	24	25	15	20	18	23	18	5	10	9
Atrophy and Debility	63	57	60	73	63	58	51	40	48	41
Convulsions	44	41	31	42	32	26	31	14	25	24
Measles	16	1	42	2	8	10	5	4	14	...
Congenital Defects ...	22	20	15	13	18	15	13	11	9	10

TABLE XXXVIII.

Deaths and death-rate per 1,000 births from Diarrhœa and Enteritis (under 2 years) :—

	Number of Deaths	Death-rate per 1,000 births	Death-rate per 1,000 births, 1909–1918 (average)
Diarrhœa and Enteritis (under 2 years) ...	59	15·2	21·0

TABLE XXXIX.

INFANT MORTALITY FOR THE YEAR 1919.

	0–1 week	1–2 weeks	2–3 weeks	3–4 weeks	Total under 4 weeks	4 wks. to 3 mths	3–6 mths.	6–9 mths	9–12 mths	Total
Deaths	85	19	16	14	134	81	63	52	37	367
Percentage to total deaths under 1 year	23·16	5·17	4·35	3·81	36·51	22·07	17·16	14·16	10·08	...

A reference to Table XXXVI. and to the map in this report following page 10, shows that the incidence of infant mortality falls heavily upon the Central and the South Wards, and particularly upon area A in the map, this area being situated for the most part in these wards. This fact is of some significance, as it will be seen that the general death-rate, and the rates of mortality from Pulmonary Tuberculosis, Diarrhœa and Enteritis, Bronchitis and Pneumonia are relatively high in this area, which may be termed a congested area, or one in which the density of population is also relatively high. The conditions under which many of the people live in this district are therefore unwholesome, and are such as one might expect to give rise to ill-health and high mortality, especially amongst infants and young children, who are more sensitive than adults to the influence of insanitary surroundings. There is evidence that in this central district, overcrowding, both of persons in houses, and of houses in the area exists, a condition which invariably leads to a general deterioration in the health of those who are subject to an unfavourable environment of this kind. There is no evidence of any serious structural defect in the individual houses in this area, it is doubtful if any of them could be closed as unfit for habitation, but they are, for the most part, inhabited by a poor class of people, who are not sufficiently alive to the advantages of cleanliness, ventilation, and suitable food. It is for the benefit of districts such as these that our Maternity and Child Welfare Centres, our Ante-Natal Clinics, School Clinics, and Tuberculosis Institutes, have been established.

NOTIFICATION OF BIRTHS ACT, 1907.—This Act, which was adopted in 1908, provides for the notification to the Medical Officer of Health of every birth within the City by the father, if residing in the house where the birth takes place, and by any person in attendance upon the mother at the time of, or within six hours after, the birth. The notification must be given to the Medical Officer of Health within thirty-six hours after birth.

The following Table gives the number of births notified under this Act in each quarter of the year 1919, together with the number of still-births notified.

TABLE XL

1919	Births notified by Midwives	Births notified by Doctors or Parents	Duplicate Notifications received	Actual Number of Births notified	Still-births notified
1st Quarter ...	826	18	4	844	24
2nd	827	26	8	853	24
3rd	973	34	19	1,007	34
4th	1,352	49	20	1,401	32
Totals ...	3,978	127	51	4,105	114

Births notified during the year 1919 4,105
Births registered during the year 1919 3,965

MATERNITY AND CHILD WELFARE.

There are now five centres in connection with this work in various wards of the City. Altogether, there are nine "consultations" for children up to 5 years of age held each week, and two "consultations" for expectant mothers. The greater number of children who are brought to these "consultations" are under two years of age. The mothers receive instruction in the feeding and management of their children and in general hygiene. The children are weighed and records of their progress are kept. A doctor is in attendance at the "consultations," and every child attending for the first time, is medically examined, and at intervals during their subsequent attendances. An arrangement has been made with King Edward VII. Hospital to receive as in patients, such children from the "consultations" as require hospital treatment. Each patient who attends the Ante-Natal Clinic is examined by the doctor in attendance at the Clinic. Complicated cases are referred to the Maternity Department of King Edward VII. Hospital, with which an arrangement has been made to receive these patients. At these Clinics, instruction is given in cutting out and making baby clothes.

MATERNITY AND CHILD WELFARE CENTRES.

I.—City Hall.—Two infant consultations weekly. One ante-natal consultation.

II.—Splott Centre.—St. Saviour's Schools, Splott Road.—Two infant consultations weekly. First opened April 3rd, 1919, on one afternoon each week, and from July 1st, 1919, for two afternoons each week.

III.—Grangetown Centre.—The Y.M.C.A. Hall. Two infant consultations weekly. First opened on April 14th, 1919, on one afternoon each week, and from July 16th, on two afternoons weekly.

IV.—Canton Centre. The Free Library.—Two infant consultations weekly. First opened on June 27th, 1919, on one afternoon each week, and from April 29th, 1920, on two afternoons weekly.

V.—Adamsdown Centre. 10, Glossop Terrace.—One infant consultation weekly. One ante-natal consultation. Opened since June 16th, 1920.

STAFF.—Medical Officers—One full-time Medical Officer (Dr. E. Creaser). Two part-time women Medical Officers. These two latter posts are filled by Dr. E. Stansfeld, who was appointed December, 1919, and Dr. M. I. Adams, appointed in March, 1920.

Health Visitors.—There are altogether ten Health Visitors. The Chief Health Visitor, Mrs. Huntley, acts as Inspector of Midwives, and assists in the supervision of the work of the other nine. The clerical work is undertaken by a woman clerk (Miss C. Williams) who is also qualified as a Health Visitor.

Ante-Natal Clinics.—During the year 1919, 63 Clinics were held. The number of patients who attended these Clinics was 193, of these 182 were new cases, and 11 were old attenders. The total number of attendances was 352, making an average of 5·7 per clinic.

THE MILK (Mothers' and Children) ORDER, 1919.—Under this Order, milk is supplied free or at less than cost price to expectant and nursing mothers, and children under five years in cases approved by the Maternity and Child Welfare Committee, and recommended by the Medical Officer in charge of the Centres. In each case the home of the applicant is visited, and thorough investigation is made into the earnings of the family, and the statements of income are sent to the employer for verification.

INFANT CONSULTATIONS.—The individual babies under observation at the "Infant Consultation" and the attendances during the year 1919 were as follows :—

	No. of New Attenders.	No. of Attendances.
1st Quarter	363 ...	1,949
2nd ,, ...	567 ...	3,445
3rd ,, ...	615 ...	4,436
4th ,, ...	504 ...	4,486

Altogether, 2,943 babies attended the "Consultations" during the year 1919, of these 1,954 were regular attendants, and 989 casual visitors. Two hundred and sixty eight "Consultations" were held during the year with a total number of 14,316 attendances. The average attendance at each "Consultation" was 53.

The deaths among the infants attending the "Consultation" were as follows :—

1919	Under 12 months.	Over 12 months.	Total.
1st Quarter	22 ...	10 ...	32
2nd ,, ...	4 ...	5 ...	9
3rd ,, ...	24 ...	2 ...	26
4th ,, ...	6 ...	2 ...	8
	—	—	—
	56	19	75
	—	—	—

The ages at death and causes of death amongst the 56 children under one year of age were as follows :—

Ages.	Number.	Cause of Death.
Under 1 week ...	0 ...	
1—2 weeks ...	0 ...	
2—3 ,, ...	0 ...	
3—4 ,, ...	3 ...	1 gastro enteritis, 2 gastric catarrh.
4 weeks to 3 months	9 ...	2 bronchitis, 2 diarrhœa, 1 convulsions, 1 broncho-pneumonia, 1 infective enteritis, 1 pyœmia, 1 non-expansion of lung.
3—6 months ...	20 ...	3 gastro enteritis, 1 bronchitis, 1 broncho-pneumonia, 7 zymotic enteritis, 3 convulsions, 1 meningitis, 1 premature birth, 1 pneumonia, 1 influenza, 1 tabes mesenterica.

Ages.	Number.	Cause of Death.
6—9 months ...	18 ...	4 broncho pneumonia, 2 infective enteritis, 3 bronchitis, 1 enteritis, 4 meningitis, 1 influenza, 1 rickets, 1 debility, 1 pneumonia.
9—12 „ ...	6 ...	1 whooping cough, 1 diarrhœa, 2 broncho-pneumonia, 1 bronchitis, 1 meningitis.

The Health Visitors paid a large number of visits to the homes of those mothers who most required and desired instruction from them. There were 11,645 visits paid in connection with Child Welfare; the number of infants visited within four weeks of their birth being 3,044.

PUBLIC HEALTH (OPHTHALMIA NEONATORUM) REGULATIONS, 1914.

By this Order of the Local Government Board, Ophthalmia Neonatorum became compulsorily notifiable by Medical Practitioners and Certified Midwives on the 1st April, 1914.

During the year 1919, 70 notifications were received. Twelve of these were duplicate notifications, making a total of 58 cases notified, as follows :—

Cases notified by Medical Practitioners	18
„ „ Medical Practitioners and Midwives ..	12
„ „ Midwives	28
Total number of Cases ...	58

A Medical Practitioner was in attendance at the birth in	9 cases.
A Certified Midwife was in attendance in	49 „
	58

Results in 58 cases notified were :—

Complete recovery	52
Result not obtained (left the district)	3
Opacity in one eye	2
Opacities in both eyes	1
	58

When the notification of a case is received, the infant is visited immediately by a Health Visitor, and if a doctor is not already in attendance she urges the parents to obtain medical advice without delay—the case is then visited from time to time to see that the medical instructions are carried out.

An arrangement has been made with the Queen Victoria Jubilee Nurses' Institute for their nurses to assist in the carrying out of the treatment prescribed by the Medical practitioners.

MEASLES AND GERMAN MEASLES.—The number of cases notified during the year amounted to 447, German Measles 176, and Measles 271. Twenty-nine were notified by parents, the remaining 418 by medical practitioners. There was no death from Measles during the year.

The following visits were made by the Health Visitor to the infected homes :—

First visits	413
Re-visits	189
	602

Cases referred to Queen's Nurses	14
Visits paid by Queen's Nurses	296

MIDWIVES ACT, 1902.—This Act has now been in operation since the 1st April, 1903, and is administered locally by the Health and Port Sanitary Committee, with the Medical Officer of Health as Executive Officer. The Act provides for the education of midwives, and for the certification and enrolment of women qualified to act in that capacity. No person can now habitually act as a midwife, otherwise than under the direction of a qualified medical practitioner, unless she is certified under this Act. The Certificate of the Central Midwives Board can only be obtained after the training specified in the Rules of the Board, and after passing the Board's Examination. A certain number of Midwives were, however, placed on the roll of Midwives and certified in virtue of their having been in practice before the passing of the Act.

The following Table gives information relating to the administration of the Midwives Act during the year 1919 :—

Number of Midwives on Roll for 1919	103
Qualifications of Certified Midwives :—	
Bona fide	39
Certificate of London Obstetrical Society	5
Certificate of Central Midwives Board	59
Total	103
Records of sending for medical help received from Midwives :—	
In the case of the Mother	199
In the case of the child	61
Total	260
Still-births notified by Midwives	190
Still-births attended by Midwives without medical practitioner	87
Cases of Puerperal Fever attended by Midwives ...	16
Number of Visits to Midwives	174
Number of Midwives visited	80
Number of Midwives inspected	71

MILK SUPPLY.—The quality of the milk supplied to Cardiff, regarded from a chemical standard, is shown in the Annual Report of the Public Analyst, in which it is found that out of 831 samples of milk submitted for analysis, 34 were adulterated, either by the addition of water or abstraction of fat. With respect to the cleanliness, there is still much room for improvement. This aspect of the milk question is of more importance from a public health point of view than adulteration. Dirty milk may be the means of conveying specific disease germs to the consumer, together with bacteria of a less harmful character. It is generally assumed that with care fresh milk from the farm can be produced containing not more than 10,000 bacteria per cubic centimetre. By the time the milk has arrived at the milk shops in the town, the number of bacteria has greatly increased. Hence the importance of a systematic bacteriological examination. This has been carried out during the year with the following results. In each case in which the number of bacteria was found to be excessive, the milk dealer was cautioned, and instructions were given with a view of improving the conditions of storage and distribution.

BACTERIOLOGICAL EXAMINATION OF MILK, 1919.

Number	Date	Description of Business	No. of Bacteria per c.c.	Bacilli coli content per c.c.	Remarks
	1919				
4	Jan. 15	Vegetable and Fruit Shop	210,000	More than 1,000	Station milk.
5	,, 15	Cardiff Dairy	42,000	,, 10	Pasteurised and cooled.
6	,, 15	Milk Cart in Street (Local Farm) ...	136,000	,, 10	Warm Milk.
7	,, 21	Cardiff Dairy	29,000	,, 10	Station milk.
8	,, 21	,, ,, ...	12,000	,, 10	Pasteurised and cooled.
9	,, 28	,, ,, ...	44,800	,, 1	Station milk.
10	,, 28	Provision Shop	72,000	,, 10	Pasteurised and cooled.
11	Feb. 4	Milk Cart in Street (Local Farm) ...	84,000	,, 100	5 hours after milking.
12	,, 4	Cardiff Dairy	16,800	,, 10	Station milk.
13	,, 11	,, ,, ...	24,000	,, 1	,, ,,
14	,, 11	,, ,, ...	28,000	,, 10	,, ,,
15	,, 18	,, ,, ...	31,000	,, 10	,, ,,
16	,, 18	Milk Cart in Street (Local Farm) ...	18,000	,, 100	Warm milk.
17	,, 25	Cardiff Dairy	64,000	,, 10	Station milk.
18	,, 25	,, ,, ...	532,000	,, 100	Local Farm.
19	Mar. 11	Milk Cart in Street ...	24,000	,, 10	,, ,,
20	,, 11	Cardiff Dairy	76,000	,, 1	Station Milk.
21	,, 18	,, ,, ...	43,000	,, 100	,, ,,
22	,, 18	,, ,, ...	6,500	,, 10	,, ,,
23	,, 25	,, ,, ...	35,000	,, 100	,, ,,
24	,, 25	,, ,, ...	48,000	,, 100	,, ,,
25	Apl. 1	Milk Cart in Street ...	16,000	,, 1	Local Farm.
26	,, 1	Cardiff Dairy	24,000	,, 1	Station milk.
27	,, 29	Milk Cart in Street ...	32,000	,, 1	Local Farm.
28	,, 29	Cardiff Coffee Tavern ...	80,000	,, 1	Station milk.
29	May 13	Cardiff Dairy	163,000	,, 100	,, ,,
30	,, 20	,, ,, ...	135,000	,, 100	,, ,,
31	,, 20	Cardiff Coffee Tavern ...	840,000	,, 100	,, ,,
32	,, 20	,, ,, ,, ...	1,900,000	,, 1,000	,, ,,
33	,, 27	Cardiff Restaurant ...	420,000	,, 100	Local Farm
34	,, 27	,, ,, ,, ...	1,100,000	,, 1,000	,, ,,
35	June 3	Milk Cart in Street ...	120,000	,, 1	,, ,,

BACTERIOLOGICAL EXAMINATION OF MILK—continued.

Number	Date	Description of Business	No. of Bacteria per c.c.	Bacilli coli content per c c.	Remarks
	1919				
36	June 3	Cardiff Dairy	160,000	More than 10	Station milk.
37	,, 17	,, ,, ...	2,400,000	,, 100,000	Very Bad.
38	,, 17	,, ,, ...	90,000	,, 10	Pasteurised and cooled
39	,, 24	Union Workhouse ...	360,000	,, 10	Local Farm.
40	,, 24	Cardiff Dairy	980,000	,, 10,000	Station milk.
41	July 4	Cardiff Cowshed ...	32,000	,, 10	Local Farm.
42	Sept. 3	Milk Cart in Street ...	400,000	,, 100	,, ,,
43	,, 18	,, ,, ,, ...	1,057,000	,, 1,000	,, ,.
44	Oct. 1	Cardiff Infirmary ...	980,000	,, 10,000	,, .,
45	,, 16	Cardiff Dairy	90,000	,, 10	Station milk.
46	,, 16	Milk Cart in Street ...	12,000	,, 1	Local Farm.
47	,, 23	Cardiff Dairy	1,900,000	,, 100	Station milk.
48	,, 23	,, ,, ...	1,200,000	,, 10	,, ,,
49	Nov. 6	,, ,, ...	16,000	,, 10	,, ,,
50	,, 6	Milk Cart in Street ...	117,000	,, 10	Local Farm.
51	,, 19	Cardiff Dairy	53,000	,, 1,000	Station milk.
52	,, 19	,, ,, ...	27,000	,, 100	,, ,,
53	,, 27	Milk Cart in Street ...	14,000	,, 10	Local Farm.
54	,, 27	,, ,, ...	400,000	,, 100	,, ,,
55	Dec. 9	,, ,, ...	36,000	,, 100	,, ,,
56	,, 9	Cardiff Dairy	72,000	,, 100	,, ,,
57	,, 16	,, ,, ...	85,000	,, 10	Station Milk.
58	,, 16	,, ,, ...	95,000	,, 100	,, ,,

CARDIFF CORPORATION ACT, 1909, PART VII., SECTIONS 42–46.—Seventeen samples of milk taken from cowsheds, institutions and milk carts within the City of Cardiff under the above "Act" for "Tuberculosis," all found negative.

Forty-eight samples of mixed milk were taken in Cardiff, including milk from 396 cows supplying milk to the City. Of these samples, four came from cowsheds in Cardiff, none was taken at Railway Stations from milk cans consigned to Cardiff dealers, thirteen from milk carts and dairies in the City, and one from Institutions. The four samples contained the mixed milk from 82 cows. Altogether the mixed milk from 396 cows supplying the City were examined, including that from 82 cows in Cardiff cowsheds, and that from 314 cows in farms and cowsheds outside the City.

WATER SUPPLY.—The water supply to the City, and to areas beyond the City boundaries, as provided by Act of Parliament, is a pure, soft water, derived from the gathering grounds on the old red sandstone formation to the north of the South Wales Coalfield, about 35 miles from Cardiff, in the Taff Fawr Valley, Breconshire. The water is conveyed by gravitation from the storage reservoirs at Taff Fawr to the reservoirs at Llanishen and Lisvane, balancing reservoirs being placed at suitable situations along the line of the main conduit, with filter beds of sand, etc., at Rhubina and the Heath. At the latter place Candy's Polarite Filters are also in operation. The capacity of the storage reservoirs is as follows :—

Beacons	Storage	Reservoir	...	...	...	345,000,000 gallons.
Cantreff	,,	,,	...	...	...	323,000,000 ,,
Llanishen	,,	,,	...	...	...	317,000,000 ,,
Lisvane	,,	,,	...	...	...	80,000,000 ,,

The high level service is supplied from Rhubina, at which place the works comprise filter beds and storage reservoirs, supplemented by a service reservoir and water tower at Penylan, supplied with water by gravitation from Rhubina.

The average annual rainfall in several districts in the drainage areas, as kindly supplied to me by Mr. C. H. Priestley, M.I.C.E., Waterworks Engineer, is given below.

Station.	Elevation.	Average 10 years.
Nant-ddu	1,560 ft.	... 73·17 ins.
		Average 11 years.
Llwynon Reservoir ...	860 ft.	... 61·45 ins.
		Average 31 years.
Cantreff Reservoir	1,120 ft.	... 69·18 ins.
		Average 35 years.
Beacons Reservoir	1,340 ft.	... 77·95 ins.
		Average 32 years.
Llanishen Reservoir ...	155 ft.	... 39·23 ins.

The water at the source in course of distribution, and on delivery at the Public Health Laboratory, has been submitted to frequent chemical and bacteriological examination by Mr. J. H. Sugden, M.Sc., F.I.C., and the results have been satisfactory.

VENEREAL DISEASES.

By an "Order" dated the 12th July, 1916, the Local Government Board made The Public Health (Venereal Diseases) Regulations, 1916.

These Regulations are based upon the recommendations of the Royal Commission on Venereal Diseases and require Councils of Counties and County Boroughs to organize and carry into effect schemes for the provision of facilities for the diagnosis and treatment of Venereal diseases. They provide that these Councils (1) shall, subject to the approval of the Board make arrangements for enabling any medical practitioner practising in the area of the Council to obtain, at the cost of the Council a scientific report on any material which the practitioner may submit from a patient suspected to be suffering from Venereal Disease, and (2) shall prepare and submit to the Board a scheme (*a*) for the treatment at and in hospitals or other institutions of persons suffering from venereal disease, and (*b*) for supplying medical practitioners with salvarsan or its substitutes for the treatment and prevention of venereal disease.

The Regulations came into operation on the date of the Order.

The payments made by the Council for the work carried out under these Regulations are subject to the approval of the Ministry of Health, who repay to the Council 75 per cent. of the

cost. As it was necessary to make the arrangements for the free treatment of venereal diseases widely known, notices were affixed to public lavatories and other suitable places, and leaflets were distributed to the owners of lodging houses, to midwives, and other persons likely to require the information contained in them. A special circular letter was sent to all medical practitioners setting forth the details of the arrangements.

The Clinics are available as under :—

(1) At King Edward VII. Hospital a clinic for men, in charge of a male medical officer, is open on Mondays and Thursdays, from 6 p.m., and on Thursdays from 9 a.m.

A clinic for women, in charge of a female medical officer, is open on Tuesdays from 5 p.m., and on Fridays from 2 p.m.

(2) At the Royal Hamadryad Seamen's Hospital, a clinic for seamen only is open on Mondays and Fridays from 2.30 p.m. Beds are set apart in both hospitals for in-patients.

The complete scheme came into operation on the 16th April, 1917, and has been working quite satisfactorily since that date. As it is desirable to make this new departure as widely known as possible and to disseminate explanatory information relating to the scheme, an arrangement has been entered into with the local branch of the National Council for combating Venereal Diseases for courses of instructional lectures by qualified and experienced lecturers selected by the National Council. Several such courses have already been held, and have been well attended.

The following are the Annual Returns relating to the year ending 31st December, 1919.

King Edward VII. Hospital.

1. Total number of persons dealt with during the year at or in connection with the out-patient clinic and suffering from :—

(*a*) Syphilis	747
(*b*) Soft Chancre	79
(*c*) Gonorrhœa	761
(*d*) Conditions other than venereal	195
Total	1,782

2. Total attendances of all patients during the year at the out-patient clinic : 12,597.

3. Aggregate number of "In-patient days" of treatment during the year : 847.

Royal Hamadryad Seamen's Hospital.

1. Total number of persons dealt with during the year at or in connection with the out-patient clinic and suffering from :—

(*a*) Syphilis	444
(*b*) Soft Chancre	144
(*c*) Gonorrhœa	331
(*d*) Conditions other than venereal	53
Total	972

2. Total attendances of all patients during the year at the out-patient clinic : 10,701.

3. Aggregate number of "In-patient days" of treatment during the year : 6,281.

FOOD INSPECTION.—The inspection of meat at the Public Abattoirs has been carried out satisfactorily during the year, under the arrangements set forth in the Annual Report for 1909. Mr. J. P. Mullane, M.R.C.V.S., is the Chief Meat Inspector, with two Inspectors under his direction, viz. : Inspectors T. R. Evans and H. Tattersall, each holding the Certificate for Inspectors of Meat and other Foods of the Royal Sanitary Institute. Since all the slaughtering of animals is carried on at the two municipal slaughter-houses, there is no difficulty in securing an efficient inspection of meat before it is sold for human consumption.

Mr. G. M. McGregor, Certificated Inspector of Meat and Other Foods, who was formerly a butcher, acts in the capacity of Inspector of Meat and other Foods in shops, markets and wholesale stores within the City, and assists in the inspection of meat at the slaughter-houses.

In connection with meat inspection, the facilities provided at the Public Health Laboratory are utilized for the purpose of diagnosis.

In the following tabular statements particulars are given with reference to diseased or unsound food dealt with during the past year.

TABLE XLI.

Animals slaughtered at the Municipal Slaughter-houses during the year 1919 :—

	Roath Abattoir	Canton Abattoir	Totals
Cattle	12,615	...	12,615
Sheep and Lambs	57,392	...	57,392
Calves	13,221	240	13,461
Pigs	4,901	753	5,654
Totals ...	88,129	993	89,122

TABLE XLII.

Unsound carcases of meat surrendered at Abattoirs and destroyed by arrangement with the owners :—

Place	Carcases of				Totals
	Beef	Mutton and Lamb	Veal	Pork	
Roath Abattoir	92	80	22	22	216
Canton Abattoir	...	....	...	1	1
Totals	92	80	22	23	217

TABLE XLIII.

Causes of destruction of carcases :—

Cause	Beef	Mutton and Lamb	Veal	Pork	Totals
Actinomycosis	2	...	...	...	2
Distomatotis	...	4	1	...	5
Decomposition	2	6	2	1	11
Dropsy	1	10	...	...	11
Dropsy and Emaciation	1	17	1	...	19
Emaciation...	8	11	2	...	21
Found Dead	2	9	3	2	16
Joint-Ill and Omphylitis	...	...	1	...	1
Jaundice	...	...	1	1	2
Johnés' Disease	1	...	...	...	1
Parturition	...	2	...	...	2
Pneumonia	...	...	1	...	1
Pyæmia	3	2	3	...	8
Prematurity	...	...	1	...	1
Rheumatism and Emaciation ...	...	16	...	1	17
Septicæmia	...	...	1	...	1
Septic Pleurisy	...	2	...	...	2
Septic Peritonitis	1	...	1	...	2
Traumatism	...	1	...	...	1
Tuberculosis	70	...	4	18	92
Totals	91	80	22	23	216

TABLE XLIV.

Approximate weight of diseased or unsound meat surrendered at Abattoirs and destroyed by arrangement with the owners :—

	Whole Carcases	Part Carcases	Offals	Totals
	tons cwt. lbs.	tons cwt lbs.	tons cwt. lbs.	tons cwt. lbs.
Beef	21 11 18	5 10 42	20 7 108	47 9 56
Veal	0 17 96	0 2 26	2 4 57	3 4 67
Mutton and Lamb	1 7 26	0 4 110	2 18 47	4 10 71
Pork	1 4 47	0 7 105	0 12 29	2 4 69
Totals ...	25 0 75	6 5 59	25 0 75	57 9 39

TABLE XLV.

Approximate weight of diseased or unsound food surrendered at shops and stores and destroyed or otherwise dealt with by arrangement with the owners :—

	tons	cwt.	lbs.
Beef	4	6	49
Veal, etc.		5	84
Mutton and Lamb, etc.	58	0	105
Pork, etc.		17	64
Eggs			40
Condensed Milk		4	110
Rabbits		4	70
Fish	35	5	1
Provisions	4	0	45
Vegetables	12	9	92
Fruit	36	8	52
Pigs' Fry	26	0	80
Bacon	1	0	87
Poultry		1	37
Livers			26
Sausages, etc.			45
Total ...	179	7	91

TABLE XLVI.

Approximate weight of diseased or unsound food destroyed or otherwise dealt with, either by consent of the owners, or by Magistrates' Orders, in each year since 1896 :—

Year.	Food. tons	cwt.	lbs.	Year.	Food. tons	cwt.	lbs.
1896	1	14	88	1908	65	4	54
1897	4	16	72	1909	73	6	12
1898	4	8	73	1910	76	12	8
1899	6	6	93	1911	90	17	80
1900	9	9	49	1912	105	18	70
1901	15	0	96	1913	77	11	39
1902	19	9	107	1914	52	0	12½
1903	18	12	46	1915	83	14	17½
1904	18	11	54	1916	109	17	28
1905	18	7	108	1917	35	5	15
1906	21	16	77	1918	67	10	100
1907	24	3	84	1919	179	7	91

TABLE XLVII.

Number of animals slaughtered and the number and proportion per cent. condemned at the Municipal Slaughter-houses during each of the years 1902 to 1919 :—

Year	Number of Animals Slaughtered	Number of Animals Condemned	Per cent. Condemned
1902	85,046	75	0·09
1903	81,258	77	0·09
1904	85,704	88	0·10
1905	80,558	84	0·10
1906	77,583	108	0·14
1907	79,733	90	0·11
1908	81,496	110	0·13
1909	87,438	117	0·13
1910	81,539	124	0·15
1911	81,898	149	0·18
1912	79,263	174	0·22
1913	74,845	167	0·22
1914	73,209	169	0·23
1915	85,343	257	0·30
1916	95,738	346	0·36
1917	103,208	247	0·23
1918	73,763	144	0·19
1919	89,122	217	0·24

SALE OF FOOD AND DRUGS ACTS.—Samples submitted for analysis during the year 1919, to the Public Analyst, Mr. Thomas Hughes, F.I.C. :—

TABLE XLVIII.

Description.	Number Analysed.	Genuine	Adulterated
Baking Powder	6	6	...
Butter	1	1	...
Flour (self-raising)	12	12	...
Milk (skimmed)	6	6	...
Milk	825	791	34
Totals	850	816	34

TABLE XLIX.

Legal Proceedings under the Sale of Food and Drugs Acts:—

No. of Sample	Description	Adulteration	Fines	Remarks
844	Milk	6·0% added water ...	...	Case dismissed
50	,, ...	19·7% added water and 30·7% deficient in fat	...	Unable to prove contract
53	,, ...	8·2% added water ...	...	To pay costs (5/–)
55	,, ...	10·7% deficient in fat ...	£1	
65	,, ...	26·7% deficient in fat ...	£4	
74	,, ...	23·3% added water and 19·0% deficient in fat	...	To pay costs (£1 2s. 0d.)
102	,, ...	15·0% deficient in fat ...	...	To pay costs (5/–)
126	,, ...	3·0% added water and 25·0% deficient in fat	£1	
180	,, ...	5·5% added water ...	...	Case dismissed
301	,, ...	10·3% added water ...	£10	
400	,, ...	13·7% deficient in fat ...	£5	
404	,, ...	14·0% deficient in fat ...	£10	
405	,, ...	16·0% deficient in fat ...	£10	
411	,, ...	4·6% added water and 16·3% deficient in fat	£5	
422	,, ...	32·0% deficient in fat ...	£11	
451	,, ...	5·0% deficient in fat ...	...	To pay costs (18/6)
615	,, ...	40·7% deficient in fat ...	£2 10s. 0d.	
619	,, ...	19·3% deficient in fat ...	£1	
634	,, ...	6·4% added water ...	...	To pay costs (£1 6s.)
655	,, ...	7·0% deficient in fat ...	...	To pay costs (12/–)
704	,, ...	6·0% deficient in fat ...	£2	
741	,, ...	6·0% added water and 7·3% deficient in fat	£2	
742	,, ...	12·2% added water and 11·3% deficient in fat	£2	
842	,, ...	6·0% deficient in fat ...	...	Case dismissed

TABLE L.

In the following cases Legal Proceedings were not taken:—

No. of Sample	Description	Adulteration	Remarks
39	Milk	2·0% added water	Proceedings not recommended
49	,, ...	18·3% ,, ,, ...	Informal sample
128	,, ...	1·0% ,, ,, ...	Proceedings not recommended
136	,, ...	6·1% ,, ,, ...	,, ,, ,,
213	,, ...	2·0% ,, ,, ...	,, ,, ,,
274	,, ...	1·0% ,, ,, ...	,, ,, ,,
287	,, ...	2·0% ,, ,, ...	,, ,, ,,
341	,, ...	2·0% ,, ,, ...	,, ,, ,,
343	,, ...	1·4% ,, ,, ...	,, ,, ,,
672	,, ...	1·0% ,, ,, ...	,, ,, ,,
823	,, ...	1·65% ,, ,, ...	,, ,, ,,

Legal Proceedings are not taken in cases of Milk in which the percentage of adulteration is very small.

TABLE LI.

Samples of milk analysed and proportion adulterated :—

	Samples Analysed	Samples Adulterated					
		Number	Percentage	Added Water	Deficient Fat	Added Water and Deficient Fat	Preservatives
WHOLESALE—							
Taken at Railway Stations	88	8	9·0	4	3	1	...
RETAIL—							
Taken in shops, from carts, etc.	743	26	3·4	11	10	5	...
Totals	831	34	4·0	15	13	6	...

FACTORY AND WORKSHOP ACT, 1901.—Under Section 132 of the Factory and Workshop Act, 1901, the Medical Officer of Health is required in his annual report to deal specifically with the administration of the Act (so far as the matters under the charge of the Sanitary Authority are concerned), and to send a copy of this report to the Secretary of State.

The Inspectors of Workshops made altogether 2,768 visits of inspection to factories, workshops, etc., during the year. 511 notices regarding nuisances or sanitary defects were served, and 461 notices were complied with. Details of the work carried out under the Act are set forth in Tables LII. to LIV. in this Report.

TABLE LII.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

PREMISES.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (including Factory Laundries)	618	102	...
Workshops (including Workshop Laundries)	1,622	245	...
Workplaces (other than Outworkers' premises included in Part 3 of this Report)	359	71	...
Total	2,599	418	...

TABLE LII —con.

2.—Defects Found in Factories, Workshops and Workplaces.

Particulars.	Number of Defects	
	Found.	Remedied.
Nuisances under the Public Health Acts :—		
Want of Cleanliness	177	171
Want of Ventilation	10	11
Overcrowding	...	2
Other nuisances	183	147
Sanitary accommodation ... insufficient	16	11
Sanitary accommodation ... unsuitable or defective ...	49	40
Sanitary accommodation ... not separate for sexes ...	17	5
Breach of special sanitary requirements for bakehouses (Sec. 97 to 100)	77	74
Total	529	461

In the foregoing table, where the number of defects remedied exceed those found, the defects were found in 1918, and remedied in 1919.

3.—Home Work.

Nature of Work.	Outworkers' Lists, Section 107.							Outwork in Unwholesome Premises, Section 108.		Outwork in Infected Premises, Sections 109, 110	
	Lists received from Employers						Notices served on Employers requiring sending lists.	Instances.	Notices served.	Instances.	Orders made (S. 110).
	Sending twice in the year.			Sending once in the year.							
	Lists.	Outworkers		Lists.	Outworkers.						
		Contractors	Workmen.		Contractors	Workmen.					
Wearing Apparel—											
(1) making, etc. ...	3	...	20	11	...	56	68	5	5	4	...
(2) cleaning & washing	...	...	...	...	...	...	...	...	...	...	...

4.—Registered Workshops.

Workshops on the Register (S. 131) at the end of the Year.	Number.
Bakers	223
Bootmakers	175
Dressmakers and Milliners	250
Laundries	42
Tailors	126
Miscellaneous	503
Total number of Workshops on Register ...	1,319

TABLE LII.—con.

5.—Other Matters.

Class	Number
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (Sec. 133) ...	...
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts but not under the Factory Act :—	
Notified by H.M. Inspector	46
Reports (of action taken) sent to H.M. Inspector	46
Other (Notices of Occupation of Workshops received from H.M. Inspector) ...	74
Underground Bakehouses in use at the end of the year	3

TABLE LIII.

Factories and workshops on the registers at the end of the year 1919, the number of inspections made, and the number of notices served during the year :—

	Number on Registers	Number of Inspections	Number of Notices Served
Workshops :—			
Bakers	223	637	89
Bootmakers	175	157	26
Dressmakers and Milliners	250	102	14
Laundries	42	113	16
Tailors	126	132	33
Miscellaneous	503	441	69
Domestic Workshops :—			
Bootmakers	...	8	...
Dressmakers and Milliners	...	9	1
Laundries	...	1	...
Tailors	...	4	...
Miscellaneous	35	18	1
Workplaces :—			
Miscellaneous	393	357	58
Outworkers' Premises :—			
Tailors	229	53	14
Miscellaneous	18	1	...
Factories :—			
Bakers	22	120	17
Bootmakers	20	9	...
Laundries	19	12	2
Miscellaneous	454	494	81
Totals	2,509	2,668	421

TABLE LIV.

NUISANCES IN FACTORIES, WORKSHOPS, &c., DURING THE YEAR 1919.

NUISANCES.	Bakehouses		Bootmakers' Premises		Dressmakers' and Milliners' Premises.		Laundries.		Tailors' Premises.		Outworkers' Premises.		Miscellaneous.		Totals.	
	Found	Remedied	Found	Remedied	Found	Remedied	Found	Remedied	Found	Remedied	Found	Remedied	Found	Remedied	Found	Remedied
Want of Cleanliness	77	74	11	11	1	1	7	8	12	12	5	5	64	60	177	171
Want of Ventilation	...	...	...	...	3	3	...	...	1	1	...	...	6	7	10	11
Overcrowding	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1
Want of drainage of floors	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sanitary Accommodation — Insufficient	3	1	...	...	...	...	1	1	...	...	...	...	12	9	16	11
Sanitary Accommodation — Unsuitable or defective ...	2	2	...	...	2	2	...	...	3	4	..	...	42	32	49	40
Sanitary Accommodation — Not separate for sexes ...	1	1	1	1	1	...	1	1	2	1	...	...	11	1	17	5
Defective or choked drains	7	6	2	2	...	...	...	...	6	5	1	1	16	17	32	31
Defective syphon traps	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Defective gully traps	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Want of flushing apparatus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Defective flushing apparatus	6	5	3	3	...	...	2	3	2	2	...	...	26	24	39	37
Defective yard surfaces	5	4	3	2	...	...	1	1	...	...	...	...	7	4	16	11
Offensive accumulations	7	7	4	4	2	2	7	7	2	2	...	...	12	16	34	38
Want of manure receptacles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Defective manure receptacles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other nuisances	12	12	13	8	7	6	8	8	9	7	7	7	63	56	119	104
Totals	120	112	37	31	17	15	27	29	37	34	13	13	259	226	510	460

SHOPS ACTS, 1912 and 1913.—The Shops Act, 1912, which came into operation on 1st May, 1912, repealed the Shops Regulation Acts, 1892–1911. It re-produces without change of substance the provisions of previous Acts dealing with Shops, from the Shop Hours Act, 1892, down to and including the Shops Act, 1911. Amongst other provisions, the Act provides that every shop-assistant must be allowed a half-holiday, and must be given intervals for meals and rest. The hours of employment of young persons under 18 years of age are regulated under the Act. Provision is also made requiring employers to provide seats for female shop assistants. Shop-keepers are required to close their shops at 1 p.m. on one week-day in every week, unless it is exempted on one of the grounds mentioned in the Act. The local authority have power to make an Order for any class of shop with the consent of the occupiers of two-thirds of the shops of the class, fixing the hour on each day of the week (other than the half-holiday) at which the shops are to close; the hour fixed must not be earlier than 7 p.m. Such Closing Orders cannot, however, apply to certain classes of business which are exempt. The Shops Act, 1913, alters the provisions of the Act of 1912 with reference to the meal times and half-holidays of assistants employed in the sale of refreshments without reducing the time to be set apart for such meal times and half-holidays.

TABLE LV.

Closing Orders fixing the closing time of shops in operation in Cardiff, and number of inspections and infringements thereunder during the year 1919 :—

No. of Order	Trade	Area	Inspections	Infringements
1	Barbers	Whole City	4	...
2	Bootmakers	Grangetown	...	...
3	Bootsellers	Central Area	98	...
4	,, ...	Roath, Cathays and Park	166	...
5	,, ...	Riverside and Canton ...	169	...
6	Goldsmiths, etc.	Central Area	88	...
7	Pawnbrokers	,, ,, ...	...	...
8	Goldsmiths, Pawnbrokers, etc. ...	Whole of City, except Central	15	...
9	General and Fancy Drapers, Milliners, etc.	East of Taff Vale and Rhymney Railways ...	162	...
10	Toys or Fancy Goods...	Central Area	...	...
11	Pharmacists, Chemists, and Druggists	Whole of City, except South	46	...
12	Ironmongers, Iron and Steel Sellers, etc.	Park Ward	48	...
13	Hay, Corn, Seed Merchants, etc. ...	Whole City	310	...
14	Bespoke Tailors	Central Area	74	...
		Totals	1,180	...

Other inspections and infringements under the Shops Act, 1912, during the year 1919 :—

Number of Shops visited	6,144
Number of observations of shops	3,156
Infringements with reference to :—	
Assistants' meal times	—
Assistants' half-holiday	155
Employment of young persons	108
Seats for female shop-assistants	2
Closing of shops for weekly half-holiday	364

Most of the above infringements were in connection with notices which shop-keepers are required to affix in the interior and on the exterior of their shops.

TABLE LVI.

Summary of Legal Proceedings.

Proceedings taken under	Number	Fined	Cautioned	To pay Costs only	Dismissed	Withdrawn	Amount of Fines
Sale of Foods and Drugs Acts ...	24	14	...	6	3	1	£71 3s. 6d. including costs
Shop Hours Acts	6	...	...	6	...	...	£2 4s. 0d.
Public Health Acts, 1875, Secs. 116 and 117	1	1	...	...	...	...	£20 0s. 0d.
Towns Improvement Clauses Act, 1847 (Sec. 74)	...	...	...	...	...	...	
Midwives Act, 1902	...	...	...	...	...	...	
Totals	31	15	...	12	3	1	£93 7s. 6d.

DISINFECTING STATION, CLEANSING STATION, and MORTUARY. — The Disinfecting and Cleansing Station is situated on land adjacent to the Mortuary, in Crawshay Lane, Penarth Road.

The accommodation of the Cleansing Department comprises separate baths and rooms for males and females. Each side contains a bath-room, waiting-room, and dressing-room, with all the necessary appliances.

The Cleansing of Persons Act, 1897, permits Sanitary Authorities to provide Cleansing Stations and apparatus for cleansing verminous persons and their garments free of charge, upon the application of such persons. The Children Act provides that where the Sanitary Authority has made this provision, the Education Authority may avail themselves of it for enforcing the requirement as to the compulsory cleansing of verminous school children.

The cleansing of school children, when necessary, is done by School Nurses. During the year 1919, the number of children cleansed at the Cleansing Station amounted to 73, suffering from scabies. In all cases the children's bedding and clothes were disinfected, and the rooms occupied by them were also cleansed and disinfected by the Disinfectors.

Infected premises are disinfected either by fumigation with sulphur dioxide, formaldehyde, or by means of a spray of formalin. Articles of clothing and bedding are removed from the house in which the infectious disease occurred to the Disinfecting Station, and submitted to disinfection by saturated steam in a Washington Lyon's high pressure steam disinfecting apparatus.

During the year the routine disinfection comprised the following :—

Houses disinfected	2,017
Articles of bedding, clothing, etc., disinfected	14,433
" " " " destroyed	204

The number of bodies removed to the Mortuary during the year was 95 (78 males and 17 females). The number of post-mortem examinations performed was 35.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—The following statement shows the work carried out for Cardiff during the year 1919.

Mixed Milks from Cardiff examined for Tubercle Bacilli :—

Number examined	17
Positive	—
Negative	17
Percentage of positive results	—

Although the samples were all from milk supplies serving the City, the original sources of the milk were, in most cases, outside Cardiff.

Bacteriological Examinations :—

Water Supplies	267
Suspected Diphtheria	271
Suspected Typhoid Fever	34
Paratyphoid, A	10
,, B.	10
Sputa for Tubercle Bacilli	491
Urines ,, ,, ...	4
Rodents for Plague	275
Diseased Meat	4
Gonococci	62
Meningococci (Fluids)	1
,, (Swabs)	7
Milks for Tubercle Bacilli	17
Milks for Other Organisms	63
Wasserman Re-actions	588
Other Examinations	1
Malaria	4
	2,109

Chemical Examinations :—

Water Supplies	96
Milk and Milk Products	66
Urine Analyses	3
Other Examinations	5
Total	2,279

The specimens for suspected diphtheria, typhoid fever, and tuberculosis submitted for examination from Cardiff, together with the results of such examinations, are shewn below :—

Nature of Examination	Positive results	negative results	Total	Percentage of Positive results
Suspected Diphtheria ...	52 ...	219 ...	271 ...	19·2
,, Typhoid Fever ...	6 ...	28 ...	34 ...	17·6
,, Tuberculosis ...	134 ...	357 ...	491 ...	27·2

SANITARY INSPECTION OF DISTRICT.—The general sanitary inspection of the district, inspection of factories, and workshops, inspection of shops under the Shops Acts, inspection of seamen's and common lodging houses, the inspection of meat and other food in shops and stores, and the taking of samples for analysis under the Sale of Food and Drugs Acts, were carried out during the year 1919 by Mr. S. Evans, Chief Inspector of Nuisances, with the assistance of 12 Assistant Inspectors.

For the purposes of inspection, the City is divided into five districts, as follows :—

District No. 1.—Central and Cathays Wards.
,, No. 2.—Park and Roath Wards.
,, No. 3.—Adamsdown and Splott Wards.
,, No. 4.—South and Grangetown Wards.
,, No. 5.—Riverside and Canton Wards.

The following statement, in addition to other tables in this report, shows the nature and extent of the work performed by the Chief Inspector and his Assistants.

SUMMARY OF SANITARY INSPECTION OF DWELLING HOUSES, &C., DURING THE YEAR 1919 :—

Complaints of Nuisances received	1,171
Houses, etc., inspected	8,554
Re-inspections of houses, etc.	14,507
Drains tested with smoke	28
,, ,, chemicals	674
Notices served :—	
Informal	2,427
Statutory	146
Notices complied with :—	
Informal	2,213
Statutory	73
Towns improvement Clauses Act, 1847 :—	
Notices *re* defective shutes served	303
,, ,, ,, complied with	220

In connection with the sanitary inspection of dwelling-houses, 4,883 sanitary defects were remedied, details of which are given below :—

Drains unchoked and repaired	465
Soil pipes, ventilation shafts and fresh air inlets repaired	14
New W.C. pans provided	102
New syphon traps provided	6
New gully traps provided	3
W.C.s repaired	91
W.C.s cleansed	43
Flushing apparatus provided	—
,, ,, repaired	61
Trough outlets repaired	85
Roofs repaired	1,056
Shutes repaired	808
Down-pipes repaired	179
Chimneys repaired	77
Inside plastering repaired	202
Outside ,, ,,	139
Areas repaired	19
Yard surfaces repaired	258
Yards, etc., cleansed	5

Outhouses cleansed or repaired	9
Accumulations removed	91
Manure receptacles provided	2
,, ,, repaired	6
Boundary and party walls repaired	50
Doors repaired	87
Floors repaired	327
Windows repaired	183
Ceilings repaired	153
Houses, bedding, etc., cleansed	59
Ventilation improved	8
Water supply provided	72
Overcrowding abated	23
Other Nuisances abated	207
Inspections of Piggeries	62

Particulars as to the inspection of premises periodically inspected during the year 1919 are herewith given :—

Offensive Trades :—	
Number on Register	47
Inspections	108
Notices served	3
Notices complied with	3
Dairies, Cowsheds and Milkshops :—	
Milkshops on Register	358
Cowsheds on Register	9
Inspection of milkshops	879
Notices served	28
Notices complied with	25
Inspection of Cowsheds	77
Notices served	7
Notices complied with	1
Shops, Stores, &c. :—	
Inspections of butchers' shops	618
,, provision shops	244
,, markets	507
,, wholesale stores	612
,, fish and fruit shops	1,227
,, storage premises	183
Other Inspections	307
Butter and Margarine Factories	11
Miscellaneous Inspections :—	
Public Houses	957
Notices served	161
Notices complied with	126
Theatres, etc.	33
Notices served	5
Notices complied with	3
Fried-fish Shops	168
Notices served	16
Notices complied with	16
Ice-cream Shops	128
Notices served	11
Notices complied with	9
Inspections of Urinals	141
Visits to owners *re* notices	642
Other visits	412

COMMON LODGING HOUSES :—

Common Lodging Houses on Register	16
Day Inspections	812
Night Inspections	10
Notices served	45
Notices complied with	37

SEAMEN'S LODGING HOUSES :—

Seamen's Lodging Houses on Register	163
Licences granted	204
Licences relinquished	41
Day Inspections	2,922
Night Inspections	14
Notices served under Byelaws	80
Notices under Byelaws complied with	77
Notices served under Public Health Acts	112
Notices under Public Health Acts complied with	100
Persons cautioned for lodging seamen without being licensed ...	13

I have the honour to be,

My Lord Mayor and Gentlemen,

Your obedient Servant,

EDWARD WALFORD,

Medical Officer of Health.

APPENDIX.

CITY OF CARDIFF.

TABLE I.

CAUSES OF AND AGES AT DEATH DURING THE YEAR 1919.

Causes of Death.	Nett Deaths at the subjoined ages of "Residents" whether occurring within or without the District.									Total Deaths whether of "Residents" or "Non-Residents" in Institutions in the District.
	ALL AGES.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1	2	3	4	5	6	7	8	9	10	11
All causes { Certified	2,651	367	75	94	116	195	471	626	707	801
All causes { Uncertified	1	...	...	...	...	...	...	...	1	...
Enteric Fever ...	3	...	...	...	...	1	2	...	...	6
Small-pox ...	...	...	...	...	...	...	...	...	...	...
Measles ...	...	...	...	...	...	...	...	...	...	1
Scarlet Fever ...	41	...	4	16	16	1	4	...	...	22
Whooping Cough ...	36	16	13	4	3	...	...	...	...	4
Diphtheria and Croup ...	16	1	1	8	4	1	1	...	...	10
Influenza	214	9	6	5	5	37	79	52	21	31
Erysipelas	3	...	...	...	...	...	...	1	2	...
Phthisis (Pulmonary Tuberculosis) ...	258	2	1	4	12	58	119	58	4	87
Tuberculous Meningitis ...	29	5	3	5	14	...	2	...	...	12
Other Tuberculous Diseases	37	2	4	4	5	7	12	3	...	24
Cancer, malignant disease	182	...	...	...	...	2	22	94	64	77
Rheumatic Fever ...	10	...	...	...	2	2	2	2	2	2
Meningitis	19	7	2	1	5	4	...	...	...	2
Organic Heart Disease ...	255	3	...	...	9	10	23	94	116	49
Bronchitis	197	34	6	2	2	...	17	37	99	45
Pneumonia (all forms) ...	202	46	17	21	8	17	37	41	15	42
Other diseases of Respiratory organs ...	53	...	3	1	2	4	10	21	12	10
Diarrhœa and Enteritis ...	60	53	6	...	...	...	...	1	...	10
Appendicitis and Typhlitis	9	...	...	2	2	2	3	...	...	13
Cirrhosis of Liver ...	4	...	...	...	...	...	1	3	...	1
Alcoholism	4	...	...	...	...	...	4	...	...	...
Nephritis and Bright's Disease	57	...	1	2	1	...	7	24	22	17
Puerperal Fever ...	6	...	...	...	...	1	5	...	...	3
Other accidents and diseases of Pregnancy and Parturition ...	15	...	...	...	...	2	13	...	...	5
Congenital Debility and Malformation, including Premature Birth ...	115	112	1	1	...	...	1	...	...	12
Violent Deaths, excluding Suicide	133	2	3	9	9	26	38	30	16	81
Suicide	12	...	...	...	...	...	4	6	2	4
Other Defined Diseases ...	667	75	3	9	14	19	61	156	330	227
Diseases ill-defined or unknown	15	...	1	...	3	1	4	3	3	4
Totals	2,652	367	75	94	116	195	471	626	708	801
Sub-entries (included in above figures)—										
Cerebro-spinal Meningitis	1	...	...	...	...	...	1	...	...	...
Broncho-Pneumonia ...	92	33	11	13	6	4	9	13	3	20
Encephalitis Lethargica	2	...	...	...	1	1	...	...	...	1

TABLE II.

INFANT MORTALITY DURING THE YEAR 1919.

NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER ONE YEAR OF AGE

Cause of Death.	Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months	9 months and under 12 months.	Total Deaths under 1 year
All causes — Certified ...	85	19	16	14	134	81	63	52	37	367
All causes — Uncertified ...	...	...	...	...	...	...	...	...	...	...
Small-pox	...	...	...	...	...	...	...	...	...	...
Chicken-pox	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	...	...	...		...
Scarlet Fever	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	1	6	5	4	16
Diphtheria and Croup ...	...	...	...	...	...	...	...	...	1	1
Erysipelas	...	...	...	...	...	...	...	...	...	...
Tuberculous Meningitis ...	...	...	...	...	...	1	1	2	1	5
Abdominal Tuberculosis ...	...	...	...	...	...	...	1	...	...	1
Other Tuberculous Diseases	...	...	...	...	...	...	...	1	2	3
Meningitis (not Tuberculous)	...	1	...	...	1	...	3	3	...	7
Convulsions	5	1	4	...	10	8	5	...	1	24
Laryngitis	...	...	...	...	...	...	...	...	...	...
Bronchitis	2	2	2	2	8	6	7	9	4	34
Pneumonia (all forms) ...	...	...	...	1	1	7	9	18	11	46
Diarrhœa	...	...	...	1	1	12	11	4	4	32
Enteritis	...	...	...	...	...	5	11	5	...	21
Gastritis	...	1	1	...	2	1	...	...	...	3
Syphilis	1	...	1	2	4	5	1	...	...	10
Rickets	1	...	1	...	2	...	...	1	1	4
Suffocation, overlying ...	1	...	...	...	1	...	...	...	...	1
Injury at birth	...	...	...	...	...	...	...	...	...	...
Atelectasis	4	...	...	...	4	...	...	...	...	4
Congenital Malformations ...	8	...	...	...	8	1	...	...	1	10
Premature Birth	36	7	5	2	50	11	1	...	...	62
Atrophy, Debility and Marasmus	21	5	2	5	33	5	1	1	...	40
Other Causes	6	2	...	1	9	18	6	3	7	43
Totals	85	19	16	14	134	81	63	52	37	367

Nett Births in the year { legitimate, 3,689. illegitimate, 180.

Nett Deaths in the year of { legitimate infants 325. illegitimate infants, 42.

TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1919.

NOTIFIABLE DISEASE.	Number of Cases Notified.								Total Cases Notified in each Locality.			Total Cases Removed to Hospital.
	At all Ages.	At Ages—Years.							East Cardiff Regis. Sub-Dist.	Central Cardiff Regis. Sub-Dist.	West Cardiff Regis. Sub-Dist.	
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.				
Small Pox	19	...	...	3	7	8	1	...	...	17	2	19
Diphtheria, including Membranous Croup ...	257	2	56	153	25	20	1	...	94	70	93	189
Erysipelas	78	2	2	8	11	23	18	14	26	26	26	...
Scarlet Fever	2,166	10	476	1,448	143	81	7	1	860	444	862	1,086
Enteric Fever	10	...	...	...	6	3	1	...	6	2	2	8
Puerperal Fever	16	...	...	...	3	13	...	...	5	6	5	...
Cerebro-Spinal Fever	1	...	...	...	...	1	...	...	1	...	...	1
Ophthalmia Neonatorum...	58	58	...	...	...	...	...	...	14	17	27	...
Measles	447	18	97	285	20	27	...	...	201	147	99	...
Encephalitis Lethargica	5	...	1	1	1	2	...	...	1	4	...	...
Influenzal Pneumonia, etc.	350	16	46	51	57	112	61	7	146	103	101	...
Malaria	76	...	...	...	19	57	...	...	16	20	40	...
Pulmonary Tuberculosis	324	2	5	22	104	142	46	3	81	139	104	...
Other Forms of Tuberculosis	74	4	8	26	14	20	2	...	25	21	28	...
Totals ...	3,881	112	691	1,997	410	509	137	25	1,476	1,016	1,389	1,303